

AKANE SHIMIZU

01

A manga cover illustration featuring two characters. On the left, a male character with white hair and a white uniform stands with a serious expression. He wears a cap that says 'WHITE BLOOD CELL' and has a bloodstain on his sleeve. On the right, a female character with red hair and a red jacket stands with a cheerful expression, holding a cardboard box. She wears a red beret and a red belt. The title 'Cells at Work!' is written in large, stylized red letters with black outlines. To the left of the title, the Japanese text 'はたらく細胞' is written in blue and white.

# Cells at Work!

はたらく細胞





# Cells at Work!

はたらく細胞

01

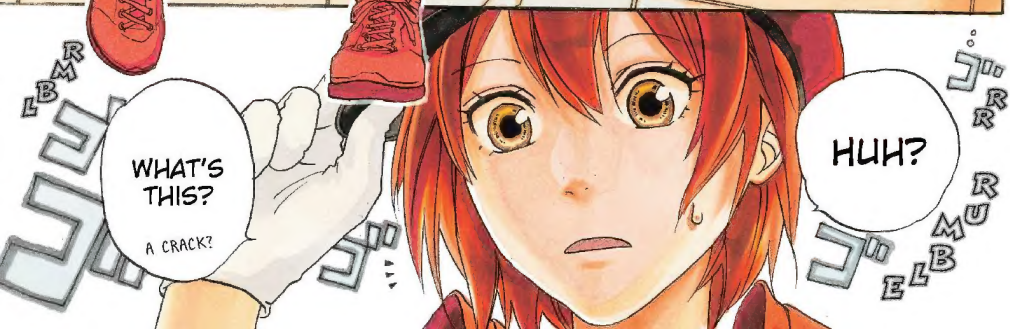
AKANE SHIMIZU

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KILLER T CELL

MONOCYTE

MACROPHAGE

MEMORY CELL

EOSINOPHIL

DENDRITIC  
CELL

RED BLOOD  
CELL

PLATELET

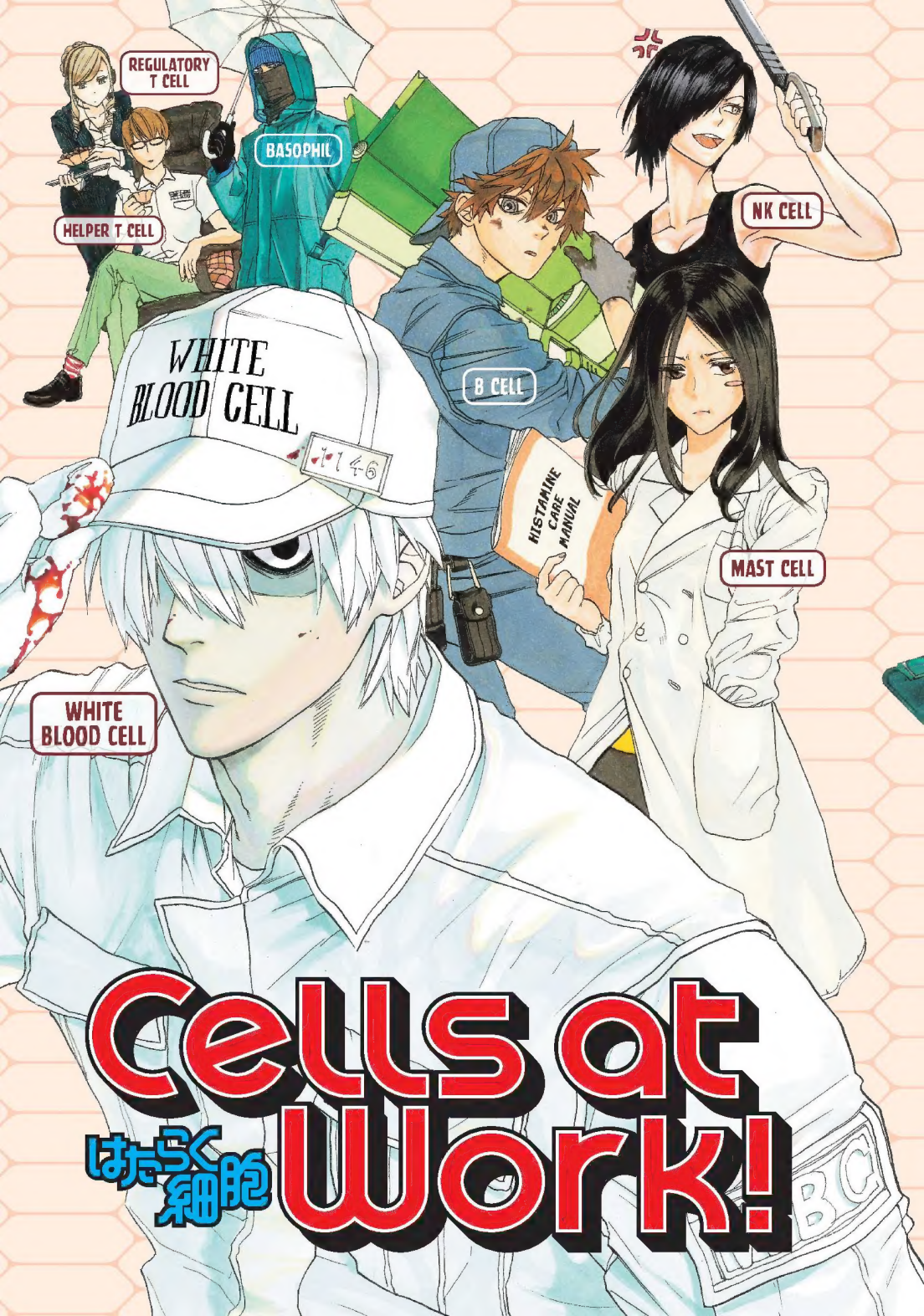
PLATELET

01

AKANE SHIMIZU







REGULATORY  
T CELL

BASOPHIL

HELPER T CELL

NK CELL

B CELL

WHITE  
BLOOD CELL

7 1 4 6

HISTAMINE  
CARE  
MANUAL

MAST CELL

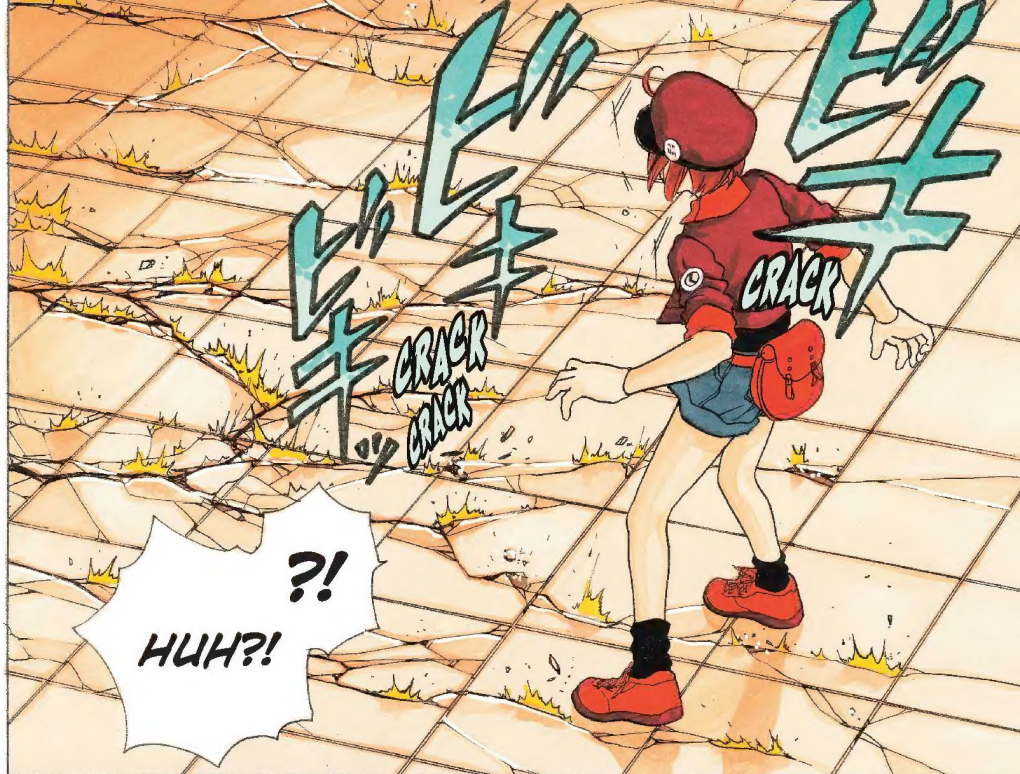
WHITE  
BLOOD CELL

# Cells at Work!

はたらく細胞

WBC







# CHAPTER 1: PNEUMOCOCCUS

**WHOA!**

THE  
VASCULAR  
ENDO-  
THELIAL  
CELLS  
BROKE!

# CHAPTER 1: PNEUMOCOCCUS

НУН?!

**STOMP**

QUIVER  
は  
QUIVER  
は





HMM.

THIS PLACE  
LOOKS  
PRETTY  
COMFORT-  
ABLE.



R-RUN  
FOR IT!

SEEMS  
LIKE IT WAS  
WORTH OUR  
TROUBLE  
GETTING  
IN....

NOT  
TOO HOT,  
NOT TOO  
COLD.  
  
AND  
PLENTY TO  
EAT, BY THE  
LOOKS OF  
THINGS.

RGH!!

YES,  
SIR!!

LUNGE!

SHUT  
THEM  
UP.







GWAAAAA-  
AAAAAA-  
AAAAAH!

A SH





WHAT  
YOU'RE  
SEEING  
IS THE  
INSIDE OF  
A HUMAN  
BODY.

YOU  
BAC-  
TERIAL  
BAS-  
TARD!

GAH!

DIE,  
SCUM!

WHAT  
ARE  
THESE  
GUYS?!

FOR CELLS  
LIKE US, THIS IS  
JUST ANOTHER  
CHEERFUL  
DAY AT WORK.

WHITE  
BLOOD CELL

1146

RAO  
オ  
オ  
オ

RAO  
オ  
オ

**White Blood Cell  
(Neutrophil)**

His main job is to destroy  
foreign substances that  
enter the body from the  
outside, such as bacteria  
and viruses. Neutrophils make up  
more than half of all white  
blood cells in the blood.

THIS  
IS WHITE  
BLOOD CELL  
NEUTROPHIL  
DIVISION,  
U-1146.

ERADICATION  
OF THE GERM  
INTRUDERS,  
COMPLETE!



THAT WAS  
REALLY  
CLOSE...

TH-THANK  
YOU FOR  
SAVING ME.

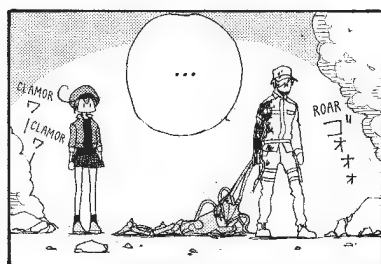
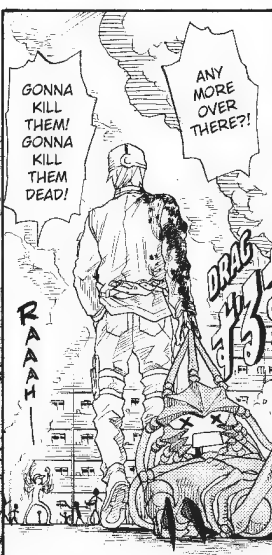
**Red Blood Cell**

Her red color is due to the chemical hemoglobin. She transports oxygen and carbon dioxide through blood circulation.



NO NEED  
TO THANK  
ME.

JUST  
DOING MY  
JOB.

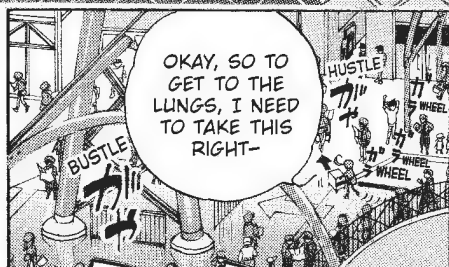


BOB



THIS  
ISN'T  
OVER  
YET.

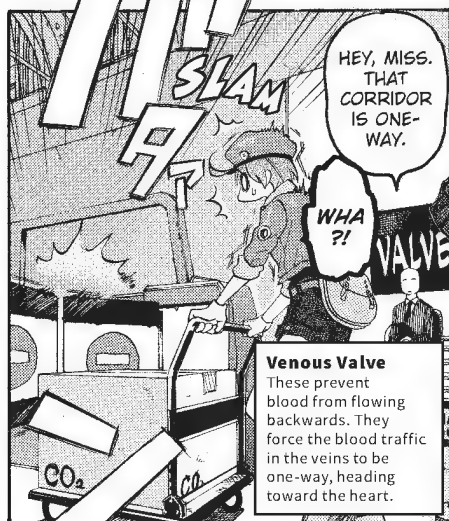
JUST  
YOU  
WAIT,  
WHITE  
BLOOD  
CELLS...



OKAY, SO TO  
GET TO THE  
LUNGS, I NEED  
TO TAKE THIS  
RIGHT-



PHEW.  
THAT  
WAS  
SCARY.



HEY, MISS.  
THAT  
CORRIDOR  
IS ONE-  
WAY.

WHA  
?!

#### Venous Valve

These prevent  
blood from flowing  
backwards. They  
force the blood traffic  
in the veins to be  
one-way, heading  
toward the heart.



LUNGS  
ARE THAT  
WAY.

MY  
MIS-  
TAKE.

S-SORRY,  
I'M NEW  
HERE.



SIGH...

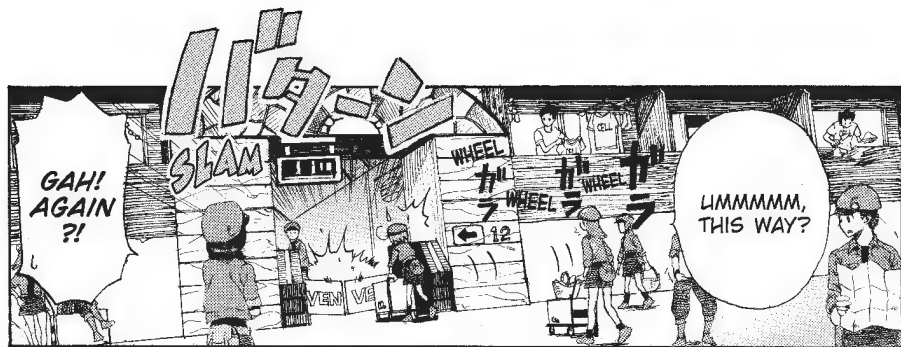
#### A Red Blood Cell's Job

Red blood cells circulate  
through the body,  
delivering oxygen to cells  
in every nook and cranny.  
They also carry carbon  
dioxide back to the lungs.

I JUST  
WANT TO  
DELIVER  
THIS TO THE  
LUNGS AND  
BE DONE.

CO<sub>2</sub>





# Macrophage

A type of white blood cell, these catch and kill foreign substances like bacteria, and determine antigens and information on immune responses. They also act as cleaners who remove debris such as dead cells and bacteria.

HUH?! S-SO SORRY, MY MISTAKE!

OH, THIS IS THE SPLEEN.

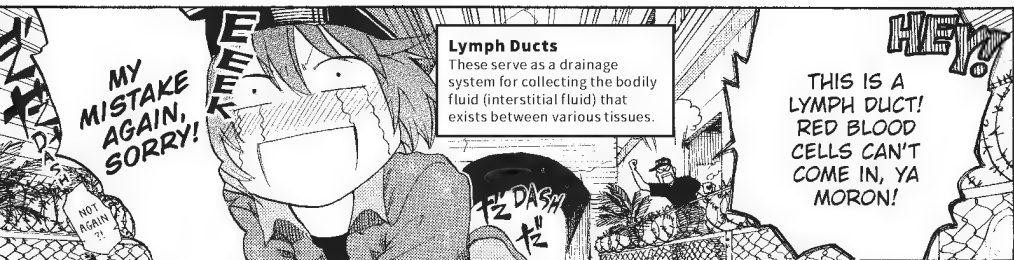


MY MISTAKE AGAIN, SORRY!

# Lymph Ducts

These serve as a drainage system for collecting the bodily fluid (interstitial fluid) that exists between various tissues.

THIS IS A LYMPH DUCT! RED BLOOD CELLS CAN'T COME IN, YA MORON!



HELLO-?

OH, MAYBE I CAN ASK WHOEVER'S IN HERE.

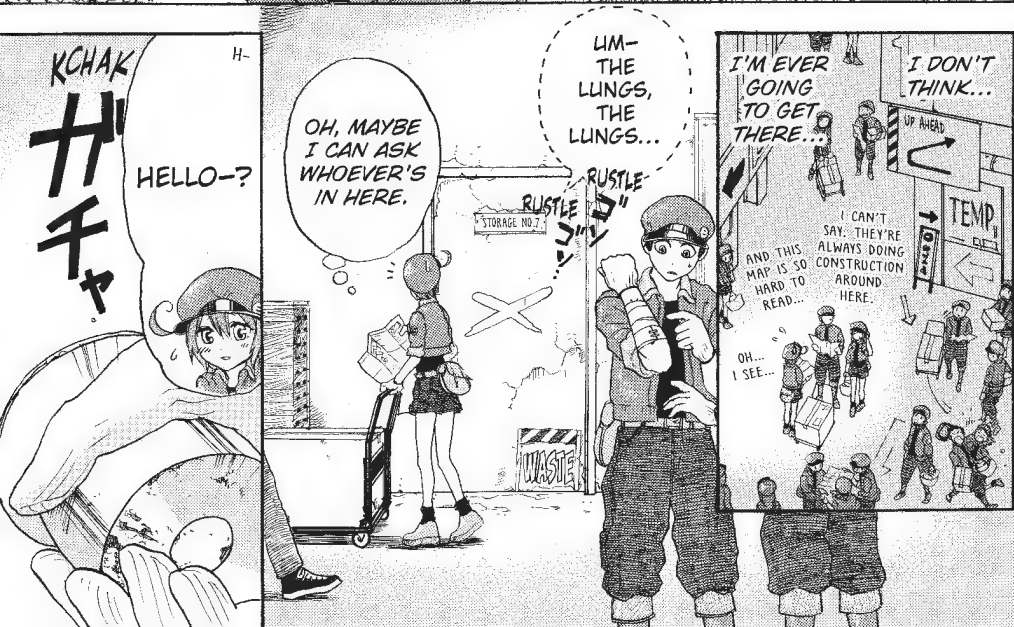
LM- THE LUNGS, THE LUNGS...

I'M EVER GOING TO GET THERE.

I DON'T THINK...

I CAN'T SAY, THEY'RE ALWAYS DOING CONSTRUCTION AROUND HERE.

OH... I SEE...





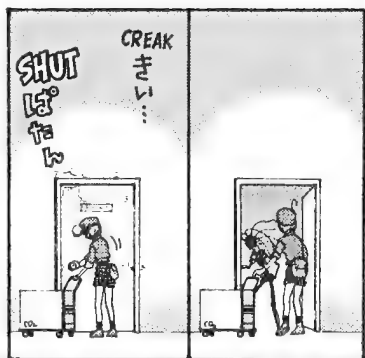
MAP

EXCUSE  
M-

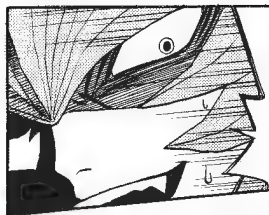
SUR

PRISE

TA







HEH  
FOUND ME  
ALREADY,  
DID YA,  
WHITE  
BLOOD  
CELL?



WHIT  
BLOOD

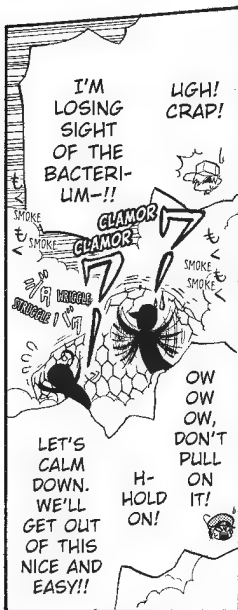
FOUND  
YOU, YOU  
BASTARD-!



YOU WON'T  
CATCH ME  
THAT EASY!!

DIE,  
GERM!

DASH



I'M  
LOSING  
SIGHT  
OF THE  
BACTERI-  
UM-!!

UGH!  
CRAP!

CLAMOR  
CLAMOR

OW  
OW  
OW,  
DON'T  
PULL  
ON IT!

H-  
HOLD  
ON!

LET'S  
CALM  
DOWN.  
WE'LL  
GET OUT  
OF THIS  
NICE AND  
EASY!!

SEE  
YA!

HA  
HA  
HA!

TAKE  
THAT!

SH-SHOOT!  
A  
BACTERIAL  
CAPSULE?!

SPREAD

BWUH!



GAH!

HE GOT  
AWAY!

**Bacterial Capsule**

A layer, found in some types of bacteria, outside the cell wall. It protects the bacteria from attacks by white blood cells and other threats.

TO  
RO  
AR

OH!  
YOU'RE  
THE RED  
BLOOD  
CELL FROM  
EARLIER!

HUH?  
UH,  
SURE...?

LI-LI,UM,  
THANKS  
FOR  
BEFORE.

CAN WE  
UNTANGLE  
THIS  
WHILE WE  
RUN?

CRAP...  
THIS  
ISN'T  
GOOD!!

WHAT?!

ONE OF  
THOSE  
INVADERS  
GOT AWAY!

WHAT WAS  
THAT  
BACTERIUM-?

Whoa  
Whoa





THERE'S  
SOMETHING  
CALLED  
**PNEUMO-  
COCCAL  
BACTEREMIA.**

PNEUMONIA  
ISN'T THE  
ONLY DISEASE  
CAUSED BY  
PNEUMOCOCCUS.

IT'LL EVEN  
OCCUPY THE  
MENINGES  
SURROUNDING  
THE BRAIN AND,  
IN THE END,  
DESTROY THIS  
BODY.

THOSE  
BASTARDS  
WORK FAST!  
THEY CAN  
INVADE THE  
WHOLE BODY IN  
AS LITTLE AS  
24 HOURS.

THAT'S WHEN  
PNEUMOCOCCUS  
ENTERS THE  
BLOOD STREAM  
AND ATTACKS  
VARIOUS  
ORGANS.

**Pneumococcal Bacteremia**

A condition that occurs when pneumococcus enters the blood stream. Marked by a sudden high fever. Advanced bacteremia can lead to a dangerous disease called bacterial meningitis.



THIS  
IS...



HM?

DING  
DONG

IT'S  
STILL  
ON  
YOU.

WE'RE  
SHORT-  
HANDED  
HERE,  
TOO.

YOU'RE  
GONNA  
HAVE TO  
GO IT  
ALONE!

USUALLY,  
IT  
WOULDN'T  
BE A  
PROBLEM.

YES...  
RIGHT NOW,  
THIS BODY  
HAS A  
WEAKENED  
IMMUNE  
RESPONSE.

IT'S  
THAT  
BAD?







THEY  
COULDN'T  
HAVE COME  
UP WITH  
A BETTER  
DESIGN  
FOR THAT  
THING?

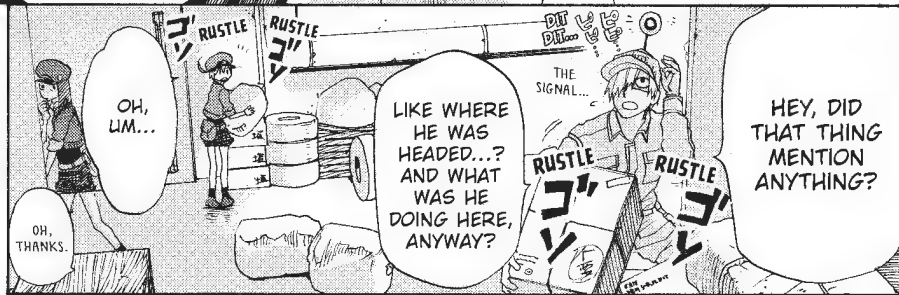
HE'S  
STILL  
CLOSE.

BETTER  
LOOK FOR  
HIM.

MY  
RECEPTOR  
IS  
REACTING!

**Receptor**  
Works like a detector  
targeting bacteria  
and other bodies.

DING  
DONG



OH,  
UM...

OH,  
THANKS.

LIKE WHERE  
HE WAS  
HEADED...?  
AND WHAT  
WAS HE  
DOING HERE,  
ANYWAY?

THE  
SIGNAL...

HEY, DID  
THAT THING  
MENTION  
ANYTHING?



SO  
HE'S  
LOST,  
TOO...

I  
THINK  
SO.

MAP

I THINK  
HE WAS  
HEADED  
FOR THE  
LUNGS,  
TOO...  
OH, HE  
WAS  
LOOK-  
ING AT A  
MAP!

LET'S SEE...  
THE LUNGS,  
THE LUNGS...

WHITE  
BLOOD CELL 1146

...ALL  
RIGHT.

THE  
LUNGS,  
HUH?

GOT IT.

LUNGS  
ARE THIS  
WAY.

THAT'S  
MY  
JOB!!

DASH

I HAVE  
TO GO,  
TOO.

NO MATTER  
HOW SCARY  
THAT  
PNEUMO-  
COCCUS IS.

GULP



#### Dendritic Cells

These cells take fragments of bacterial cells and virus-infected cells, and present them as antigens for other cells in the immune system. As their name suggests, they extend finger-like appendages.





# Platelet

These specialized blood cells collect wherever a blood vessel is damaged, blocking the opening. They are relatively smaller than other cells.







WE'VE  
RECEIVED WORD  
THAT THERE'S A  
PNEUMOCOCCUS  
BACTERIA ON  
THE LOOSE IN  
THE BLOOD  
STREAM.

AHEM,  
THIS IS  
HELPER  
T CELL.

WE'RE HEREBY  
DEPLOYING  
THE **KILLER  
T CELLS!**

#### Helper T Cell

In the event of a foreign invasion, these cells act as commanders. They determine the appropriate strategic response based on the intelligence on the nature of the invaders. They issue deployment orders for Killer T Cells.

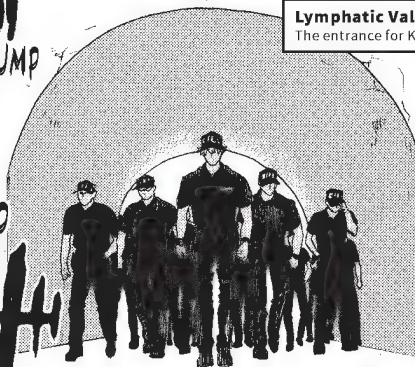
I SWEAR ON  
OUR HONOR  
THAT WE WILL  
ERADICATE  
THE THREAT!

NOW THAT THE  
ELITE FORCES OF  
US LYMPHOCYTES  
ARE ON THE WAY,  
THERE'S NOTHING  
TO FEAR.



#### Lymphatic Valve


The entrance for Killer T Cells.



COMMANDER,  
YOU HAVE  
CRUMBS ON  
YOUR FACE  
FROM THAT  
COOKIE  
YOU HAD  
EARLIER...

WHA?! GAH,  
I DO! CRAP!  
OH, UM, SO-  
GOOD DAY,  
EVERYONE!

BZZT



THEY'RE  
AWFULLY  
IMPOSING.

SCARY.

THEY'RE  
RELATED  
TO  
US WHITE  
BLOOD CELLS,  
ACTUALLY.

#### Lymphocytes

A type of white blood cell. They make up 20-40% of the white blood cell count in the blood. They are responsible for the body's immune response. Killer T Cells are a type of Lymphocytes.

IN THE  
NAME OF  
THE KILLER  
T CELL  
DIVISION...

FINISH  
THE  
TARGET  
WITHIN  
TWO  
SECONDS  
OF  
SIGHT-  
ING!

ANY  
COWARD  
THAT LETS  
IT GET  
AWAY WILL  
BE SENT  
TO THE  
SPLEEN!

SIR,  
YES,  
SIR!

#### Killer T Cells (Cytotoxic T Cells)

Deployed on the orders of a Helper T Cell. Professional killers who recognize and destroy foreign substances such as transplanted cells, virus-infected cells, and cancer cells.



WELL,  
DON'T  
YOU LOOK  
JUST FINE  
AND  
DANDY?

ESPECIALLY  
FOR  
SOMEONE  
WHO  
MIGHT BE  
ABOUT  
TO DIE.



LET'S.

OH WELL.  
WE SHOULD  
GET GOING,  
TOO.

HEY,  
HOLD  
ON.  
WHAT'S  
THAT RED  
BLOOD  
CELL DOING  
HERE?

SHE'S  
AN  
EYEWIT-  
NESS  
WHO SAW  
THE BACTE-  
RIUM.

EEP.



WHA?



THEN  
YOU MIGHT  
AS WELL  
LEARN NOW.

SHE'S  
NOT SO  
MUCH  
"FINE" AS  
JUST  
IGNORANT.



**Hemolysis**

The destruction of  
red blood cells.

YOU  
NUTRIENT-  
CARRYING  
RED BLOOD  
CELLS ARE  
ITS TARGET!

PNEUMOCOCCUS  
IS A HIGHLY  
AUXOTROPHIC,  
ALPHA-HEMOLYTIC  
BACTERIUM.  
IN OTHER  
WORDS—



W H A A A ?

DON'T  
HAVE  
TIME  
FOR  
THIS.  
LET'S  
GO.

WHITE  
BLOOD CELLS

HE JUST  
WANTS TO  
SCARE  
YOU. DON'T  
WORRY  
ABOUT  
HIM.

STEP  
STEP  
STEP

YOU  
BETTER  
WATCH  
YOUR  
BACK.

HA HA HA







## CHATTER

WELCOME TO THE LUNG

DANGER! RUNNING STRICTLY FORBIDDEN

DANGER! RUNNING STRICTLY FORBIDDEN

**DANGER! RUNNING STRICTLY**

ALERT ISSUED

A PNEUMOCOCCI

## The Lungs

**The Lungs**  
The organs responsible for taking in oxygen from the air and excreting carbon dioxide. In other words, the place where respiration occurs.

## OTHER WAY!

THIS IS THE LEFT LUNG

**ROW**

**BOW**

**TAKE CARE!**

THE NIGHT LONG

UH-HUH.  
GET BACK  
SAFE.

WATCH  
WHERE  
YOU'RE  
WALKING.

WAVER 3  
WAVE

WAVE







I SURE  
HOPE I  
DON'T RUN  
INTO IT.

THAT  
PNEUMO-  
COCCUS...  
I WONDER  
WHERE IT  
WENT.



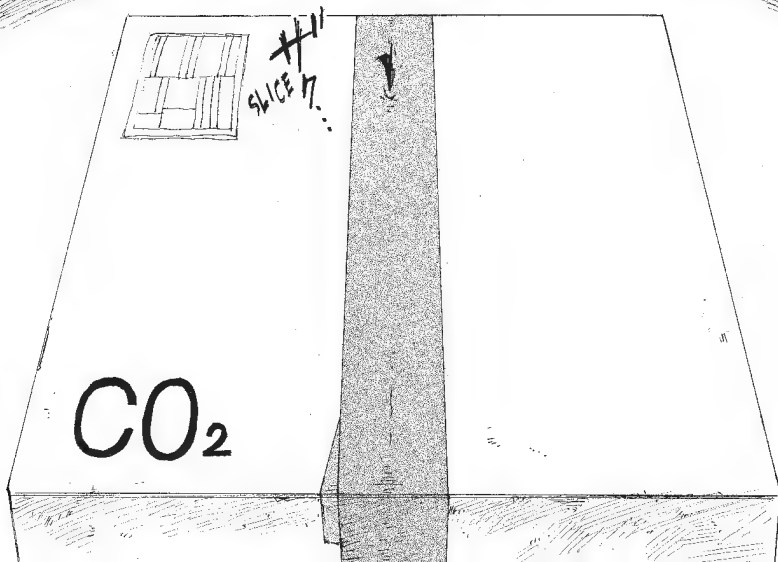
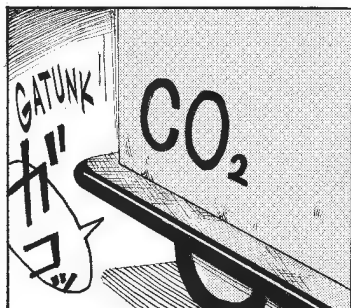
IS  
THIS AN  
ALVEO-  
LUS?

OH...

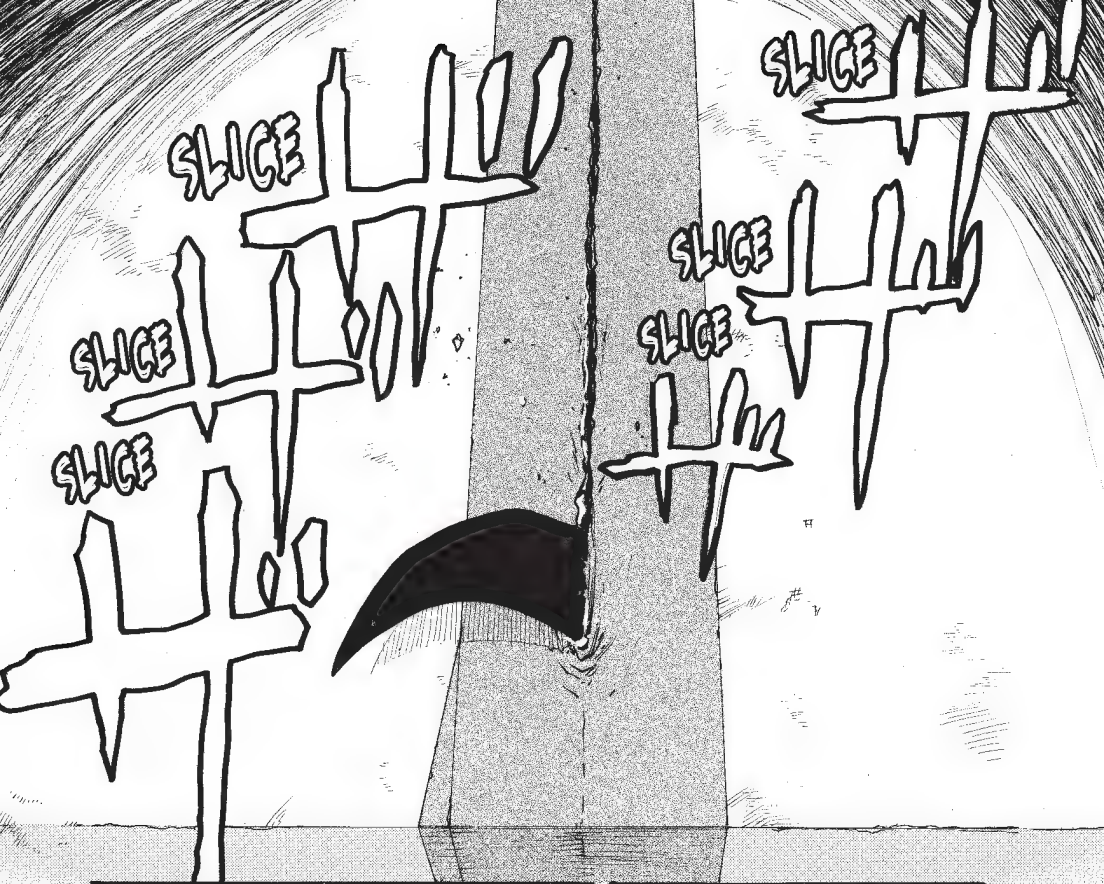
**Alveolus**  
(plural: Alveoli)  
The place where air is  
exchanged between the  
air and the capillaries.  
There are approximately  
300 million alveoli  
between both lungs.



HUH?

















HEH  
HEH  
HEH  
HEH...

MAN OH  
MAN,  
WHAT AN  
IDIOT.

YOU HAD NO  
IDEA WHAT  
YOU WERE  
CARRYING.

Pneumococcus



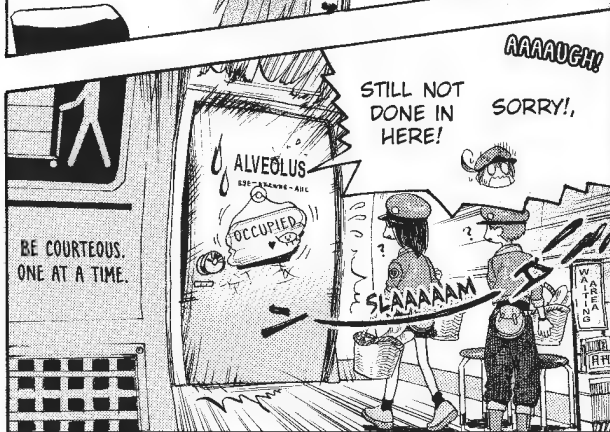
GUESS I  
MIGHT AS  
WELL START  
BY HAVING  
A SNACK.

A PERFECT  
SPOT FOR  
AMBUSHING  
RED BLOOD  
CELLS.

WELL, HERE  
I AM IN THE  
CAPILLARIES.



HELP-



STILL NOT  
DONE IN  
HERE!

AAAAUGH!  
SORRY!;



ACK!



MM-HMM. I  
STOPPED BY  
THE SMALL  
INTESTINES.

WOW, YOU  
SURE ARE  
CARRYING  
A LOT OF  
NUTRIENTS.

STROLL

STROLL

AAUGH!





GO AHEAD,  
CALL FOR  
HELP IF  
YOU WANT.

HA  
HA  
HA

NOT THAT  
ANYONE WILL  
BE ABLE TO  
GET THROUGH  
WITH THE  
CORRIDOR  
BLOCKED  
LIKE IT IS!!

GROAN...



HE'S  
GOING  
TO KILL  
ME.



PLEASE  
—!!!

SOME-  
ONE...

YOU MORON!  
YOU THINK  
YOU'RE  
PROTECTING  
YOUR  
FRIENDS?!

TALK  
ABOUT A  
WASTED  
EFFORT!  
I'M  
ABOUT TO  
MASSACRE  
YOU ALL!





IT'S CALLED  
**TRANSMIGRATION.**  
WHITE BLOOD  
CELLS LIKE ME...

YOU HAVEN'T  
DONE YOUR  
HOMEWORK.

SLIDE  
ZOO...

WHITE

...CAN SLIDE  
BETWEEN  
THE WALLS OF  
BLOOD  
VESSELS TO  
REACH OUR  
TARGETS.

WH

AM

WHITE  
BLOOD  
CELL!

**Transmigrating Cells**  
Cells that move freely  
inside an organ.



LAND

GAH...  
HOW DID  
YOU KNOW  
I WAS  
HERE?!

○ **ビョウ** **DING DONG**



GUH...  
**CREEP!!**

I COULDN'T  
BELIEVE IT  
AT FIRST...

THAT YOU'D  
BE HIDING  
INSIDE THE RED  
BLOOD CELL'S  
PACKAGE.



**WHITE  
BLOOD CELL**

I NOTICED  
THAT MY  
RECEPTOR  
STOPPED  
RESPONDING  
AS SOON AS I  
PARTED WAYS  
WITH THE RED  
BLOOD CELL.



GOT  
IT!

...HE WAS  
GOING TO  
ATTACK  
RED BLOOD  
CELLS  
CARRYING  
NUTRIENTS!

WHITE  
BLOOD  
CELL,  
THAT  
THING  
SAID...

**DASH**

I DIDN'T  
COME ALL  
THE WAY  
HERE  
TO DIE!

DAMN  
IT!

**CO<sub>2</sub>**

**RUN**



YOU'LL  
HAVE  
TO DO!  
DIE!!

AAUGH!  
A BACTERIUM!

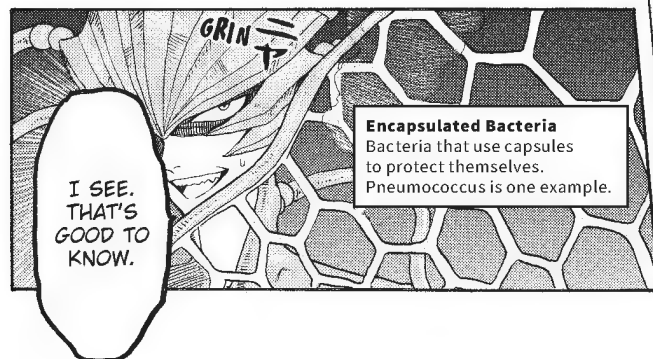
GAH!

DAMN...

SHOE

WHITE  
BLOOD CELL

FWIP



**Encapsulated Bacteria**  
Bacteria that use capsules to protect themselves.  
Pneumococcus is one example.

A CAP-SULE?!  
YOU MEAN  
WHAT HE USED  
BEFORE  
-?!



I'M GOING  
TO KILL YOU  
ALL SLOWLY  
BEFORE I  
INVADE  
THE WHOLE  
BODY!

CHANGE  
OF  
PLANS!

FWIP  
/ / /  
/ / /  
/ / /

WHITE  
BLOOD  
CELL-SAN,  
PLEASE!  
LEAVE  
AN IDIOT  
LIKE ME  
AND SAVE  
YOUR-  
SELF...

IT'S  
ALL  
OVER.

WHITE  
BLOOD  
CELL

I'LL HAVE  
TO USE  
IT...

HUH  
...?  
IT?



RUN  
THAT  
WAY!

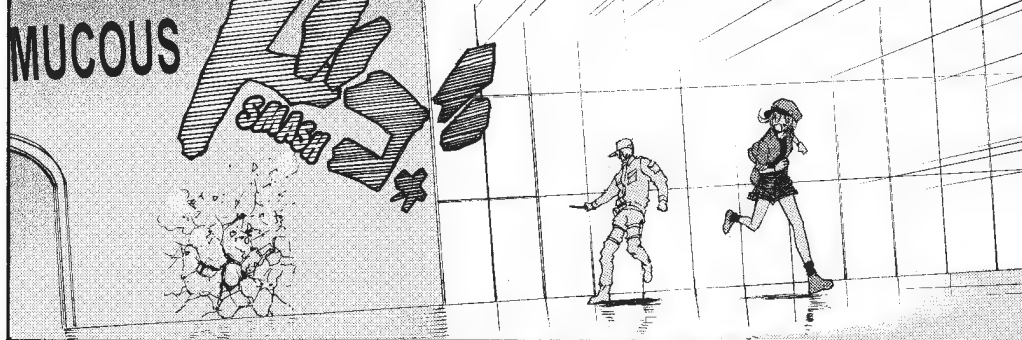
TH-  
THIS  
WAY  
...?

SOR-  
RY...

WHY'D  
YOU HAVE  
TO GO  
AND TELL  
HIM?!

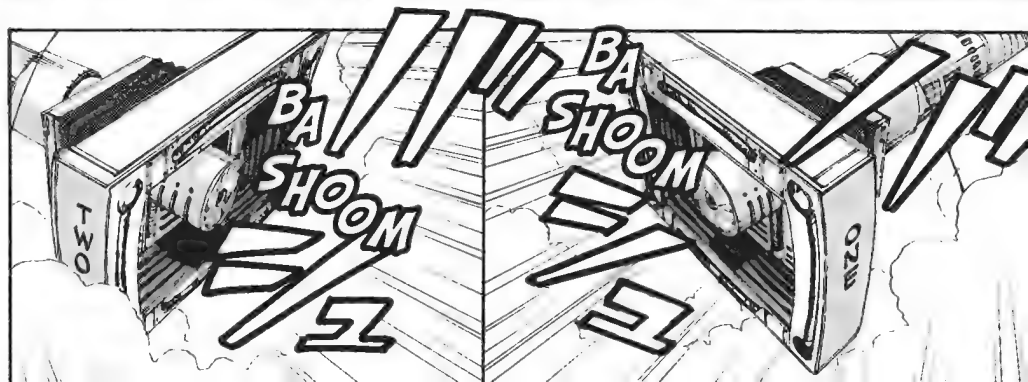
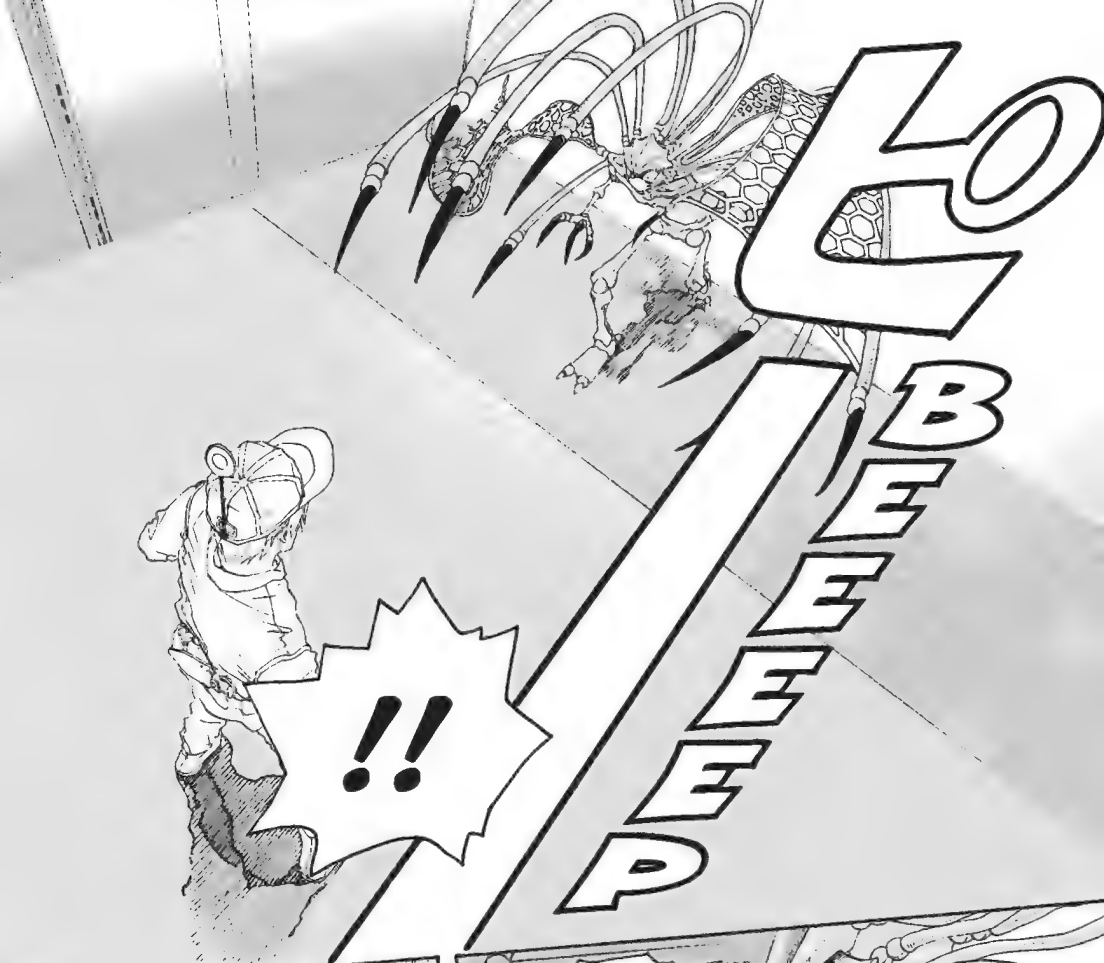
I THOUGHT  
HE KNEW.



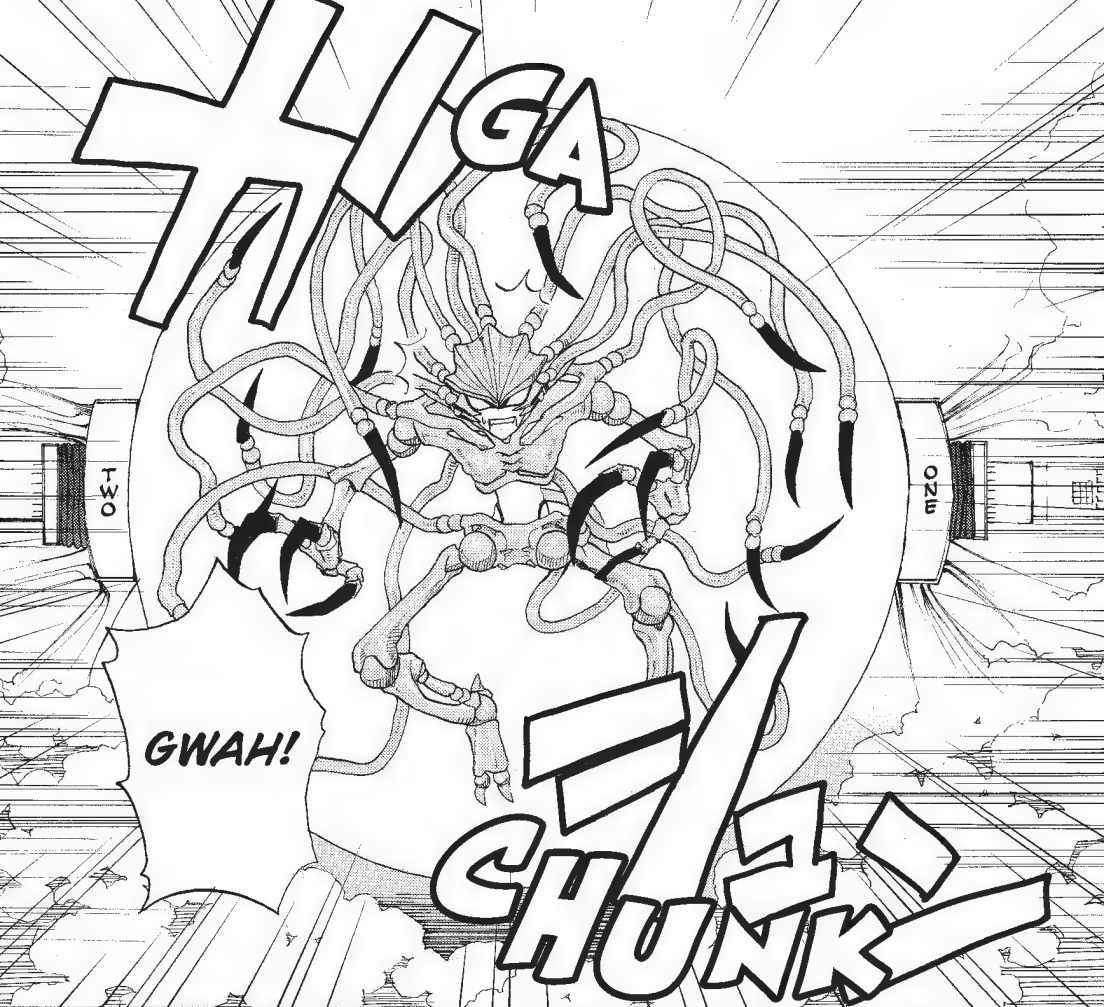








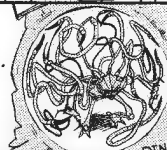




GWAAH!

CHUNK!

H-HEY, HOLD ON.  
WHAT IS THIS  
THING?!



DING DONG  
DING DONG

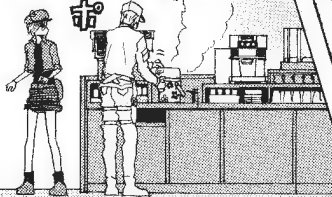
THE  
BACTERIUM  
WILL NOW BE  
REMOVED.

THE BACTERIUM  
HAS BEEN  
SUCCESSFULLY  
APPREHENDED.

TOO  
GOOD  
TO  
BE  
TRUE

LIS-  
TEN  
TO  
ME!!

POUR  
POUR  
POUR  
DRINKS  
HELP YOURSELF  
WELL,  
THEN.



?!





MUCOL  
AUTOM  
HAM

WHITE  
BLOOD CELL

114-G

IT'S NO  
USE.

DO YOU  
KNOW  
WHAT THAT  
MEANS?

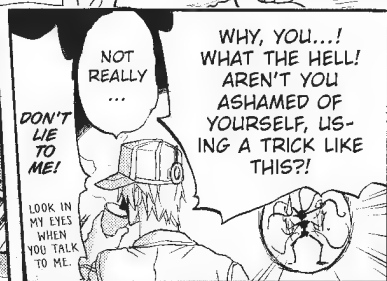
AND WE'RE  
IN THE  
BRONCHIAL  
TUBES...

THAT  
CAPSULE  
CANNOT  
BE BROKEN  
FROM THE  
INSIDE.

VICTORY  
TEA



WE'LL  
WATCH  
FROM  
HERE.



NOT  
REALLY  
...

WHY, YOU...!  
WHAT THE HELL!  
AREN'T YOU  
ASHAMED OF  
YOURSELF, US-  
ING A TRICK LIKE  
THIS?!

DON'T  
LIE  
TO ME!

LOOK IN  
MY EYES  
WHEN  
YOU TALK  
TO ME.



HERE,  
TEA FOR  
YOU.

GAAAH!

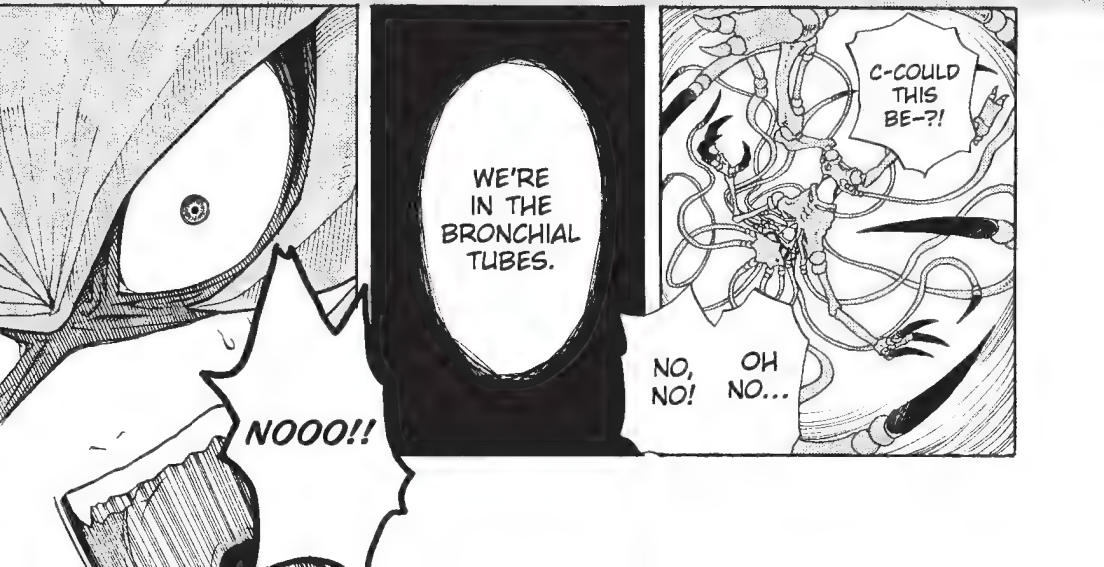
THANKS...

?



YOU WANT  
SOMETHING,  
TOO, RED  
BLOOD  
CELL?

OH...  
I'LL HAVE  
WHAT  
YOU'RE  
HAVING.









#### Sneeze

A reflexive response that expels foreign substances (such as dust or virus cells) from deep inside the nose to the outside. It can also occur in response to an allergic reaction, tickling of the nasal cavity, inhalation of pepper powder, or exposure to sunlight.

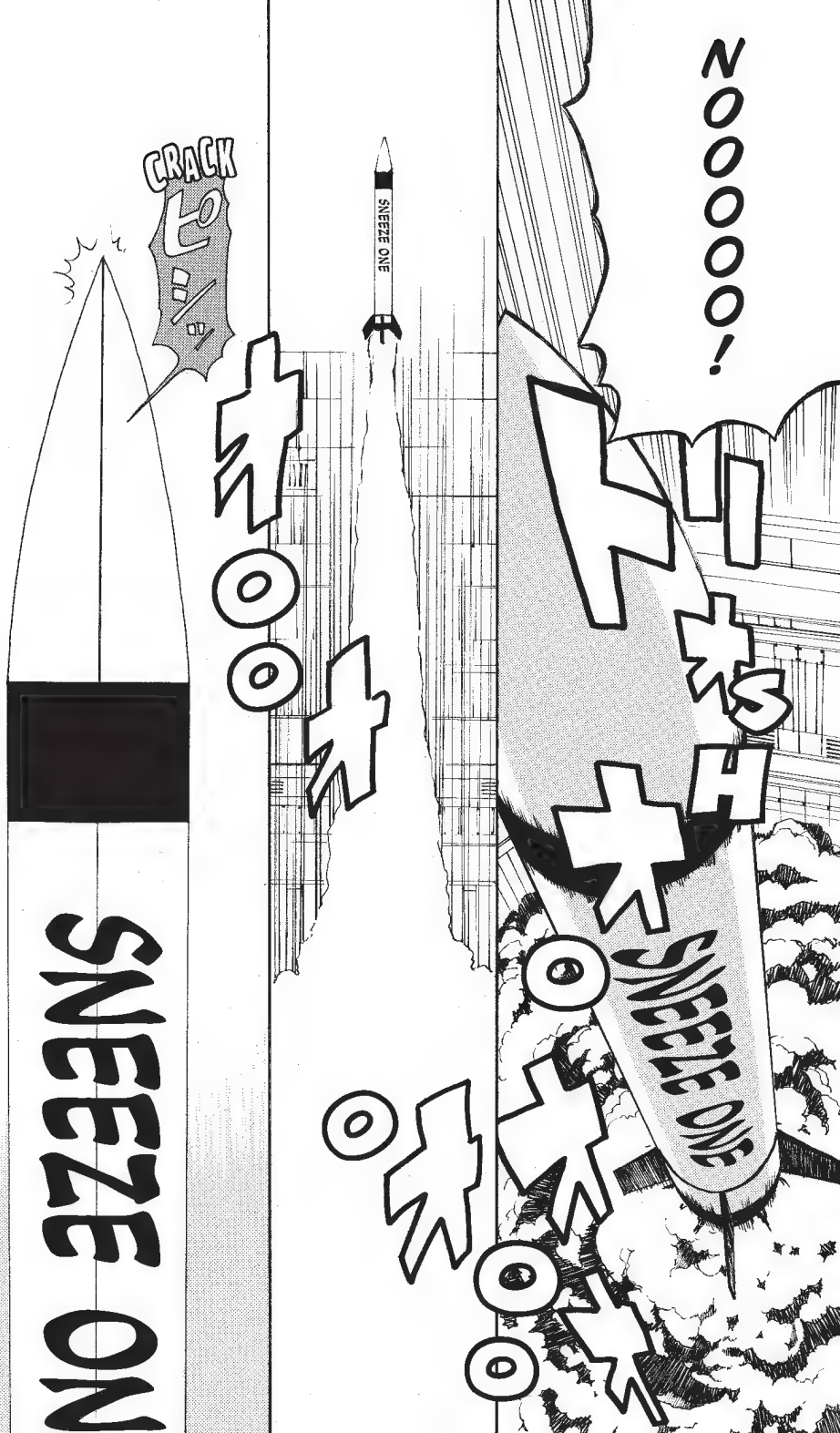


NOOOOO!!

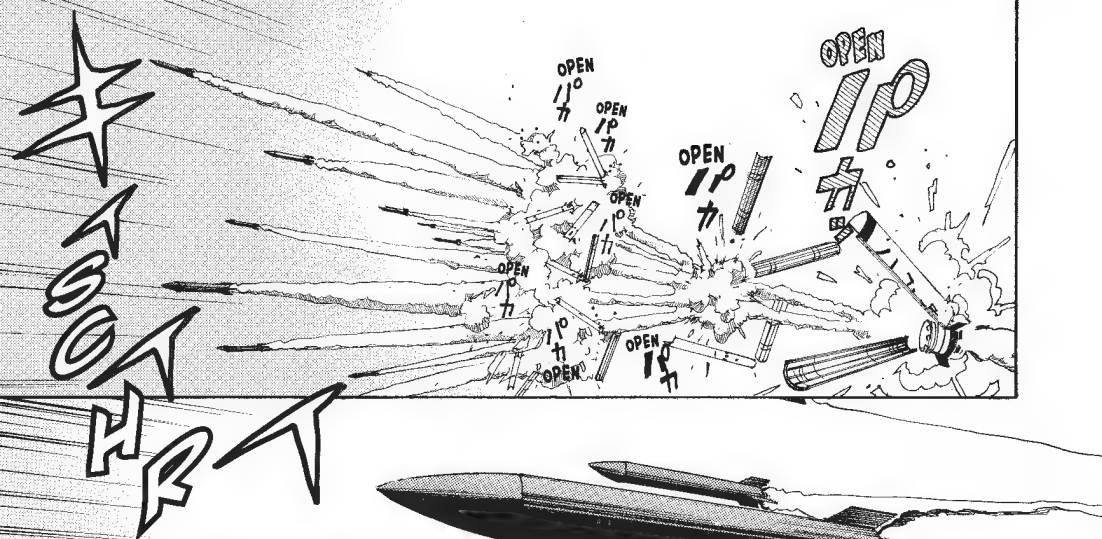
SNEEZE ONE

CRACK

SNEEZE ON









**BYE-  
BYE,  
GERM.**









\* $\mu$ L: MICROLITER, A UNIT OF VOLUME. ONE  $\mu$ L IS 0.001 ML.



**Number of White Blood Cells**  
Approx. 3500-9500 per  $\mu$ L\*

OH, RIGHT ...



**Number of Red Blood Cells**  
Approx. 4.3 million to 5.7 million per  $\mu$ L in adult males; approx. 3.9 million to 5.2 million per  $\mu$ L in adult females.

YUP...

THERE ARE EVEN MORE OF US RED BLOOD CELLS...

N-NOW THAT YOU MENTION IT...

LET'S CARRY SOME STUFF!







WELL...  
UH, TAKE  
IT EASY, I  
GUESS.

WHITE  
BLOOD CELL

1146

WHITE  
BLOOD CELL

1587

DIE,  
GERM  
!!!

KILL  
IT DEEEAAD!

G

2001

CHAPTER 1: END

**Cells at**  
**Work!**  
はたらく細胞



**TARGET  
INBOUND!**



**COM-  
MAND-  
ER!**

**TIME TO  
CONTACT,  
TEN  
SECONDS...  
NINE!**

**SIZE,  
30 NM!**

1 NM = 0.001 μm = 0.00001 mm = ONE BILLIONTH OF A METER



**SO  
THEY'RE  
BACK  
AGAIN...**

**...THIS  
YEAR,  
TOO!**

#### **Helper T Cell**

In the event of a foreign invasion, these cells act as commanders. They determine the appropriate strategic response based on the intelligence on the nature of the invaders.





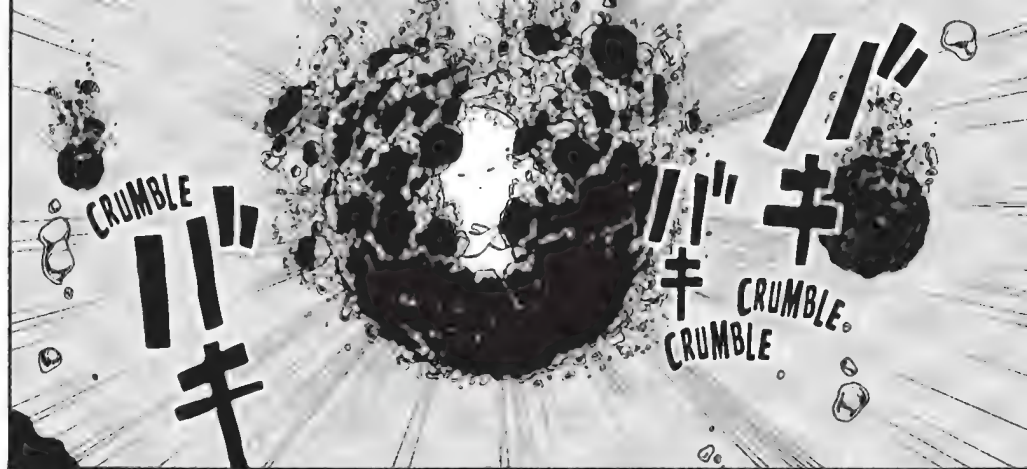
**CEDAR  
POLLEN...!**

**Cedar Pollen**

Cedar trees disperse  
their pollen in the wind.  
Peak pollen season is  
February through March.

**CHAPTER 2:  
CEDAR POLLEN ALLERGY**





#### Cedar Pollen Allergen

An allergy is an excessive immune response against a specific causative agent, or antigen. (In the case of allergies, the antigen is called an "allergen".) The allergens responsible for the cedar pollen allergy are the proteins Cry j1 and Cry j2. These proteins are named for the species name for Japanese cedar, *Cryptomeria japonica*.





CRAP

THEY  
COULDN'T  
BLINK FAST  
ENOUGH...!

GNH!

REPORT FROM  
MACROPHAGES  
NEAR THE EYE  
MUCOSA!  
MULTIPLE POLLEN  
PARTICLES HAVE  
LANDED AT  
POINTS I35  
AND K50!



DAMN!  
SOUND  
THE  
ALARM,  
NOW!

THE  
ALLERGENS  
ARE  
INFILTRATING  
THE BODY  
THROUGH THE  
DRAIN PORT!



AH!

A  
FOREIGN  
ENEMY?

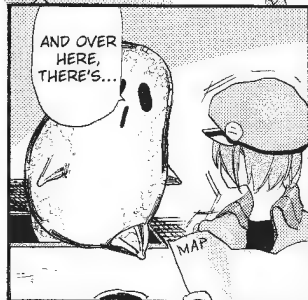
**Red Blood Cell**

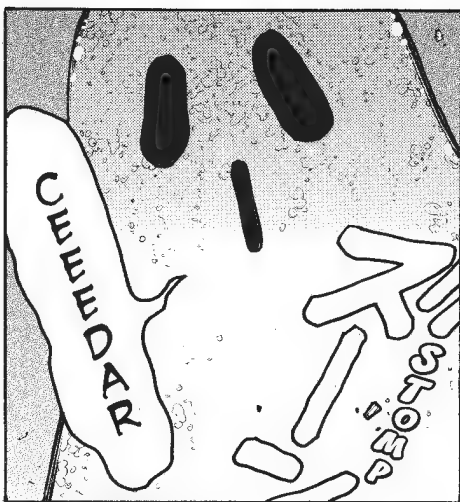
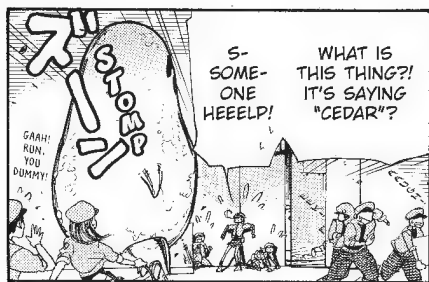
Her red color is due to the chemical hemoglobin. She transports oxygen and carbon dioxide through blood circulation.



TO ALL  
EMPLOYEES  
NEAR THE  
EYE MUCOSA,  
PLEASE BE  
CAREFUL.

A FOREIGN  
ENEMY HAS  
ENTERED  
THROUGH  
THE NEARBY  
DRAIN  
PORT—









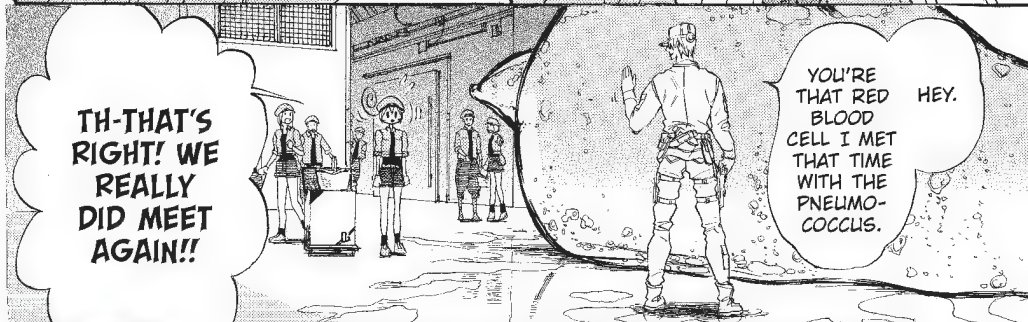
OH.

**White Blood Cell (Neutrophil)**

His main job is to destroy foreign substances that enter the body from the outside, such as bacteria and viruses. Neutrophils make up more than half of all white blood cells in the blood.

WHITE  
BLOOD  
CELL?!

OH...?!  
YOU'RE-



TH-THAT'S  
RIGHT! WE  
REALLY  
DID MEET  
AGAIN!!

YOU'RE  
THAT RED  
BLOOD  
CELL I MET  
THAT TIME  
WITH THE  
PNEUMO-  
COCCUS.

HEY.



LET'S  
EAT IT  
AND  
FIND  
OUT.

CHOMP!

NO  
IDEA  
...

**Phagocytosis**

The process by which a cell engulfs and breaks down bacteria and foreign substances. Cells that can do this (such as monocytes, macrophages, and neutrophils) are called phagocytes.



WHAT,  
THIS  
THING  
...?

IT WAS  
SAYING  
"CEDAR"  
OR  
SOME-  
THING.

UM...  
WHAT  
IN THE  
WORLD  
IS THAT  
THING?

IT'S  
PRETTY  
HULKY...

...BUT IT'S  
A HARMLESS  
THING. DOESN'T  
CAUSE ANY  
ILLNESSES OR  
ANYTHING.

THIS IS AN  
ALLERGEN  
FROM  
CEDAR  
POLLEN.

YUP.

NOT PAR-  
TICULARLY  
RARE THIS  
TIME OF  
YEAR.

HMM.  
JUDGING  
FROM THE  
TASTE...

WELL, BUT  
IT COULD  
CAUSE  
PROBLEMS,  
TOO. WE'RE  
SUPPOSED  
TO KILL IT  
ANYWAY.

R.I.P....

IT'S  
HARMLESS?

C-  
COULD  
IT  
BE...?

WHAT  
THE  
HECK  
ARE  
YOU?

IS THAT  
THING  
A CEDAR  
POLLEN  
ALLERGEN  
?!

GAH?!

I SEE...  
POOR  
THING.





**IT'S JUST  
LIKE THE  
LEGEND  
SAYS...!**

**YOU'VE  
GOTTA  
BE  
KIDDING  
ME!!**

**SO THIS  
IS WHAT  
CAME IN  
THROUGH  
THE MUCOUS  
MEMBRANE  
DRAINAGE!**

**Memory Cell**

A lymphocyte that remembers the immune responses of antigens.




**YES—  
FOR  
NOW!!**

**YOU  
DROPPED  
THIS.  
?**

**CEDAR  
ALLERGEN  
IS A  
HARMLESS  
ANTIGEN,  
ISN'T IT?**

**WHAT'RE  
YOU SO  
WORRIED  
ABOUT?**

**...?**




**BUT...  
WE MEMORY  
CELLS HAVE A  
LEGEND THAT'S  
BEEN PASSED  
DOWN FOR  
GENERATIONS.**



**OH,  
EXCUSE  
ME! I'M A  
MEMORY  
CELL!**

**I WAS JUST  
TAKING  
A WALK.**





...THE  
MOUNTAINS  
SHALL RAGE,  
THE EARTH  
WILL ROAR,  
AND THE  
SEAS SHALL  
WRITHE.

WHEN THE  
METEORS OF  
MISFORTUNE  
RAIN DOWN  
FROM SPACE...

IN OTHER  
WORDS, VOLCANIC  
ERUPTIONS,  
CRUSTAL  
PERTURBATIONS,  
AND MASSIVE  
FLOODS—ALL  
AT THE SAME  
TIME. AN  
UNPARALLELED  
CALAMITY.



THOSE OF YOU IN THE AFFECTED AREAS WHO CAN RUN, RUN!!

EMERGENCY! AN ABNORMAL NUMBER OF CEDAR ALLERGENS HAVE INFILTRATED THE BODY.

EEEEK

AUGH

THOSE OF YOU IN THE AFFECTED AREAS WHO CAN RUN, RUN!!

EMERGENCY! AN ABNORMAL NUMBER OF CEDAR ALLERGENS HAVE INFILTRATED THE BODY.

EEEEK

AUGH

TH- THEY'RE HERE...

THE END OF THE WORLD IS BEGINNING...!!





SMASH

I'VE  
GOT  
THIS!!

**B Cell**  
(Antibody-producing cell)  
A type of lymphocyte that  
makes weapons called  
antibodies to fight antigens  
such as bacteria and viruses.

WOW,  
IT'S GOT  
AN ANTI-  
BODY...!

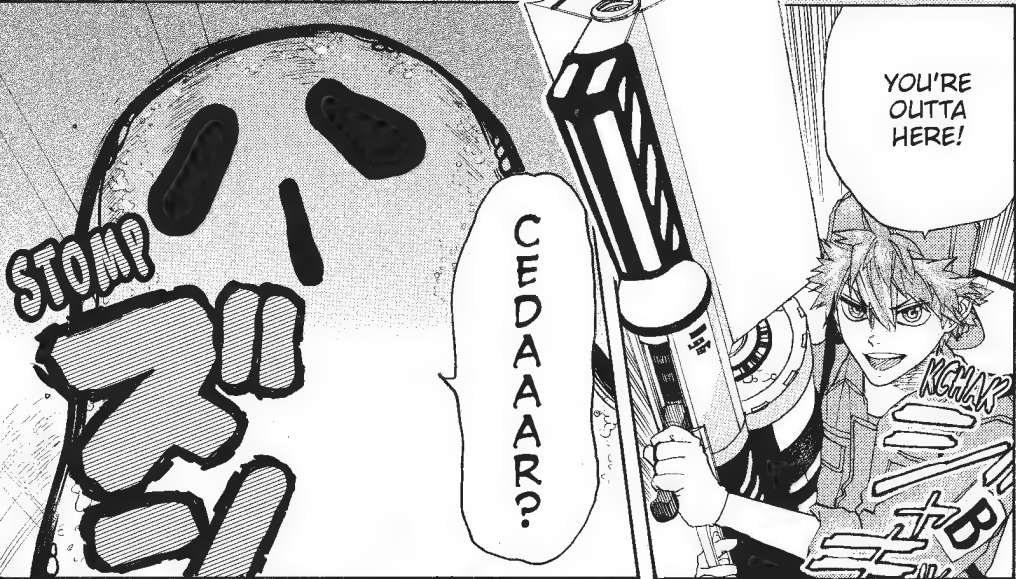
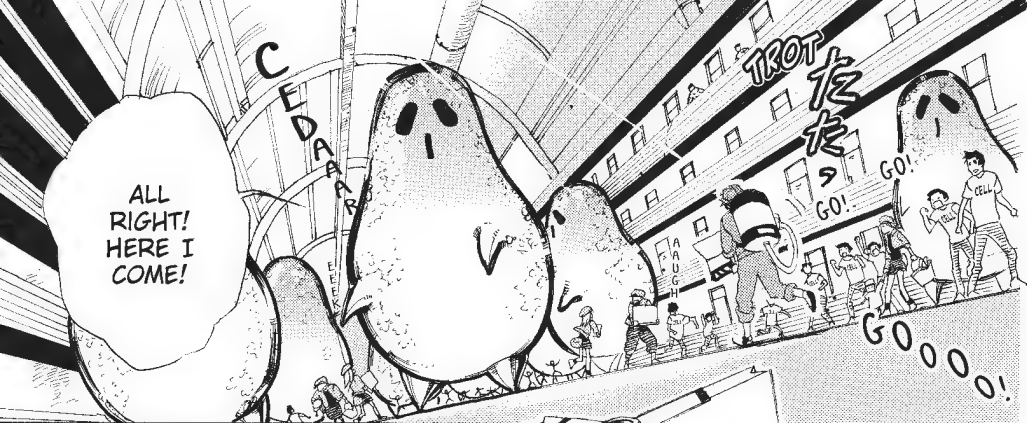
IT'S  
A B  
CELL!

BUT ONLY  
TO OPEN  
THE GATES  
OF HELL...

THE HOLY  
MIST SHALL  
COVER THE  
EARTH...

HOLY...HUH?  
WHAT'RE YOU  
TALKING  
ABOUT NOW?

THIS  
CALAMITY...  
IS IT  
POSSIBLE TO  
PREVENT IT?



**IgE Antibody**  
(Immunoglobulin E)  
An antibody produced by B  
Cells on the order of Helper  
T Cells to combat allergens.

**IGE  
ANTI-  
BODY!!**







HEH  
HEH...

BUT  
SOMETHING  
WAY MORE  
TERRIBLE IS  
ABOUT TO  
HAPPEN!

OH  
SURE...  
FOR  
NOW...

HEY,  
YOU  
OKAY?

LOOKS  
LIKE THAT  
TOOK CARE  
OF EVERY-  
THING.

THAT  
HOLY MIST  
YOU WERE  
TALKING  
ABOUT  
MUST BE  
THE ANTI-  
BODY.

SEE...

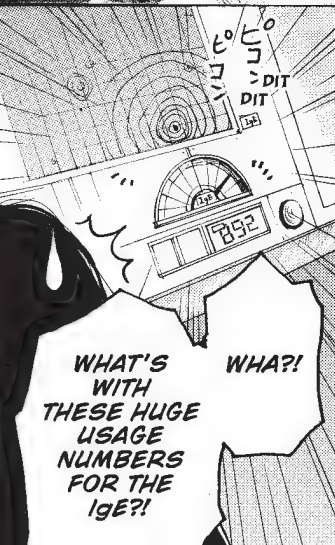


NO IDEA  
WHAT IT  
MEANS,  
BUT SCARY,  
RIGHT?!

SOMETHING  
CRAZY IS  
GOING TO  
HAPPEN!

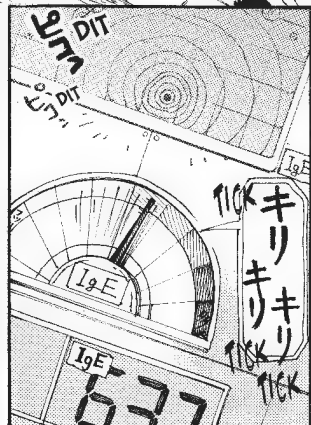
THE MIST  
SHALL BECOME  
A DARK CLOUD,  
CALLING FORTH  
HEAVY RAINS TO  
WASH AWAY  
EVERYTHING...

SURE, IT  
SOUNDS  
SCARY...  
BUT YOU'RE  
RIGHT. NO  
IDEA WHAT  
IT COULD  
MEAN.

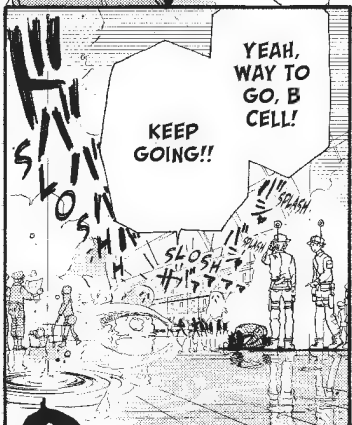


WHAT'S  
WITH  
THESE HUGE  
USAGE  
NUMBERS  
FOR THE  
1gE?!

WHA?!



tick  
キリ  
キリ  
キリ  
tick  
tick  
tick



YEAH,  
WAY TO  
GO, B  
CELL!

KEEP  
GOING!!

ドロ  
ドロ  
ドロ



UHM...

BUT THE  
MANUAL SAYS  
TO PRODUCE  
HISTAMINES  
CORRESPONDING  
TO THE IGE  
VALUES...



I'VE  
NEVER  
SEEN  
NUMBERS  
LIKE  
THESE...!

### Mast Cell

Releases chemicals such as histamines and leukotrienes in response to stimulus from excessive production of IgE. The "mast" in mast cell comes from the German word for "fattening": Mastzellen.



SO...  
I GUESS  
THIS  
MUCH?



HEY, B  
CELL.

A  
WHITE  
BLOOD  
CELL.

MAYBE  
YOU DON'T  
WANT TO GO  
OVERBOARD  
WITH THAT  
THING.  
OR SOMETHING...

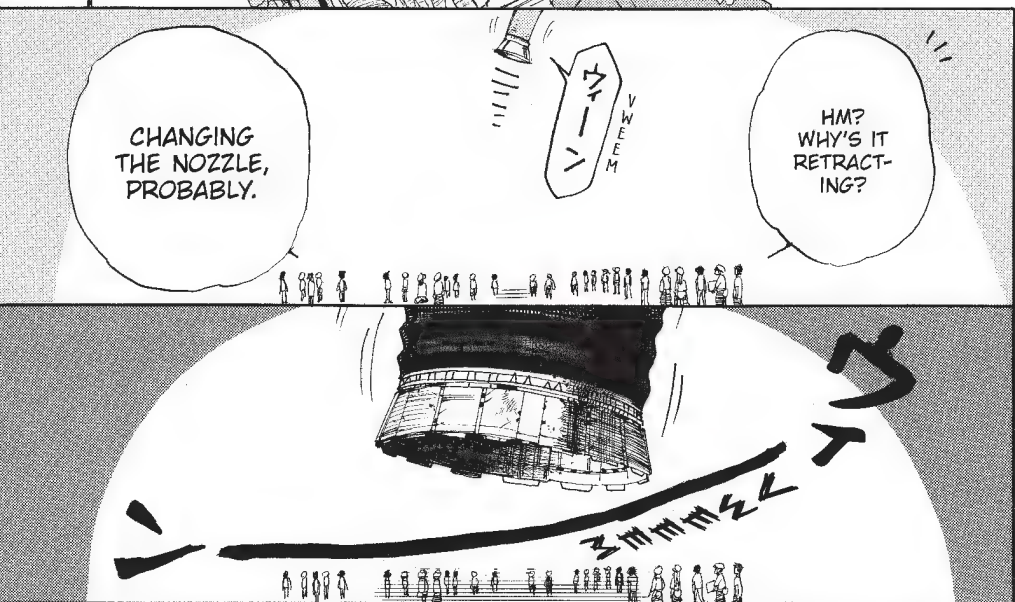
HUH?



SO YOU  
THINK THAT  
OVERUSING  
IGE IS  
BAD...FOR  
WHATEVER  
REASON?

I  
THINK  
SO.









GWAH!!!

#### Histamines

A chemical mediator released by mast cells when they recognize foreign substances or damage to tissues.



OH! COULD THIS BE THE MASSIVE FLOODS OF LEGEND?!

COULD BE...  
GURBLE...  
GURBLE...





WHAT?!  
CALL THE  
MAST CELL!  
HAVE HER  
STOP IT AT  
ONCE!

CAPTAIN,  
WE'VE GOT  
TROUBLE!!

HISATAMINES  
ARE POURING  
OUT LIKE A  
FLOOD...!



GAH, THE  
RELEASE  
CENTER!



I DID...  
SHE SAID  
SHE CAN'T  
STOP IT  
UNTIL THE  
CEDAR  
ALLERGEN  
INVASION IS  
STOPPED...

THAT'S  
INSANITY!  
AT THIS  
RATE,  
WE'LL-!

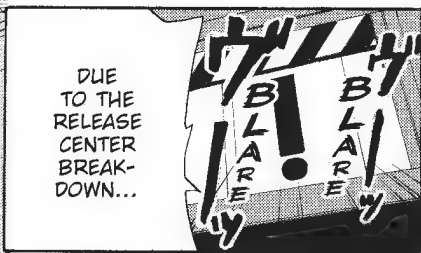


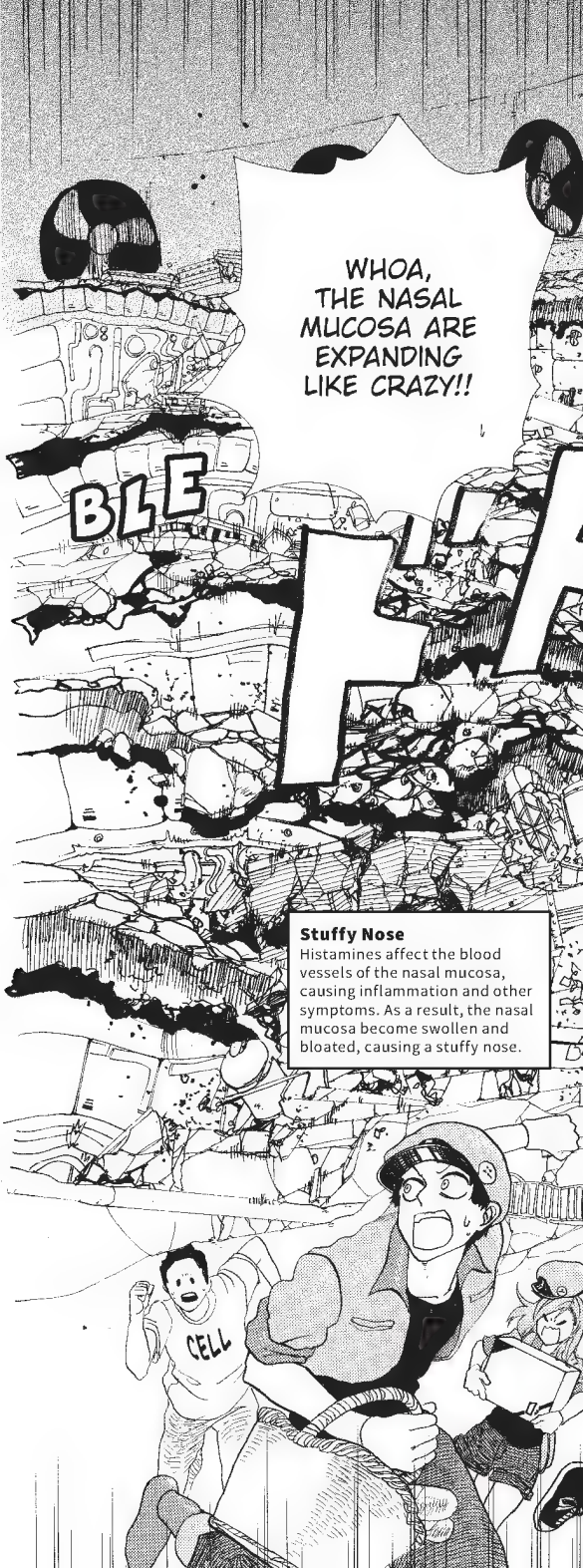
IT'S  
NO USE,  
CAPTAIN!  
THE  
HISATAMINES  
ARE  
POURING  
IN!





**Allergic reaction due to histamines**  
Excessive production of histamines can result in allergic reactions such as flushing, itching, edemas, pain, and constriction of the bronchial tubes.





WHOA,  
THE NASAL  
MUCOSA ARE  
EXPANDING  
LIKE CRAZY!!

#### Stuffy Nose

Histamines affect the blood vessels of the nasal mucosa, causing inflammation and other symptoms. As a result, the nasal mucosa become swollen and bloated, causing a stuffy nose.



THE  
VOLCANIC  
REACTIONS!

#### Sneeze

Histamines stimulate the sensory nerves in the nasal mucosa. When this stimulus reaches the sneezing center, it causes repetitive sneezing.





AND THE  
MASSIVE  
FLOODS!

**Tears**

Histamines stimulate the sensory nerves in the eye to cause inflammation (congestion and itching). This produces an excessive amount of tears.

GAH,  
TEARS  
ARE  
POURING  
OUT!

EEEEEEEEEE

TEARS

RRUM

AND THE  
CRUSTAL  
PERTUR-  
BATIONS!

HA  
AUGH



EEEECH

THIS IS  
THE CEDAR  
POLLEN  
ALLERGY  
OF  
LEGEND.

GOOUSA

トトトト

ヒ

EEEEEE  
EKK

WHITE  
BLOOD CELL  
71.46



**DAMN IT!  
HOW DID  
THIS  
HAPPEN?!**

**Cedar Pollen Allergies**

Allergic symptoms—such as sneezing, runny nose, stuffy nose, itchy eyes—caused by the cedar pollen acting as an antigen (allergen).



IT WAS THEM!  
IT'S ALL THEIR FAULT.

HELP!

GUUUSH

DAMN IT!  
HOW DID THIS HAPPEN?!



I-IT'S NOT MY FAULT!!  
SHOULDN'T YOU BE BLAMING  
THE HISTAMINES?!

HUH?

SHAM!  
SLAM!

YOU  
JUST HAD  
TO GO  
AND USE  
ALL THAT  
ANTI-  
BODY!!

GUH!

WHAT'RE  
YOU  
GOING TO  
DO NOW,  
B CELL?!



EEK!  
WHAT DO  
YOU THINK  
YOU'RE  
DOING?!

SLAM

SO  
IT'S THE  
MAST  
CELL'S  
FAULT?!



NO! IT'S  
DEFINITELY  
BECAUSE YOU  
RELEASED  
TOO MUCH  
HISTAMINE!!

LET  
GO OF  
ME!

I JUST DID  
MY JOB  
ACCORDING  
TO THE  
MANUAL!

IT'S NOT  
MY FAULT!  
IT WAS  
THE IGE!

WAAH!  
WAAH!

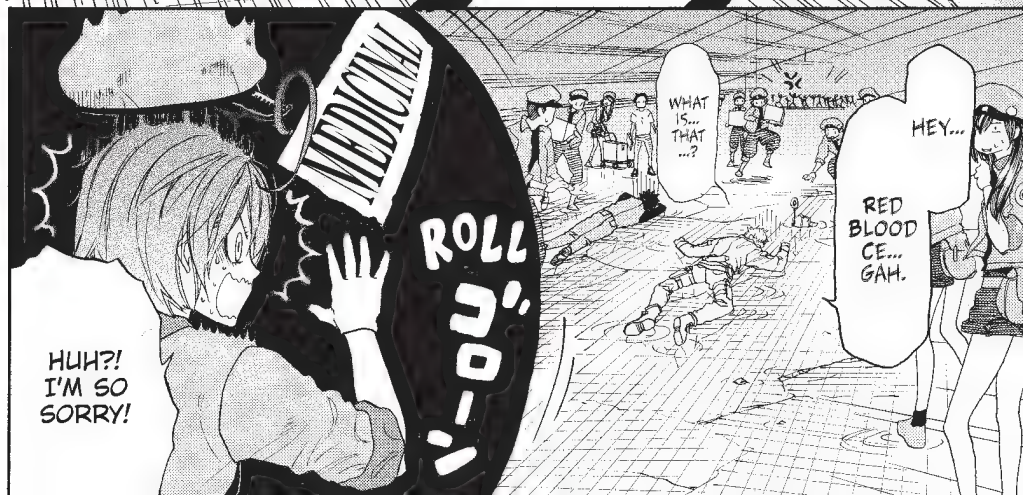






WHITE  
BLOOD  
CELL!

WHAM



HUH?!  
I'M SO  
SORRY!

MEDICINE  
ROLL NO!

WHAT  
IS...  
THAT  
...?

HEY...  
  
RED  
BLOOD  
CE...  
GAH.



WHAT'S  
WITH THE  
UPROAR?!  
IS EVERY-  
THING  
OKAY?!

HFF!

HFF!

WELL,  
I DON'T  
REALLY  
KNOW  
WHAT  
THIS IS,  
EITHER!

BUT THE  
DELIVERY  
ADDRESS  
IS RIGHT  
HERE!

HFF!

DTT  
DTT  
DTT

MEDICINAL

YOU HAVEN'T  
SEEN IT  
BEFORE, EITHER,  
MEMORY  
CELL-SAN?



LIMMM,  
CAN'T  
SAY I  
HAVE.



ARRIVED AT  
DESTINATION.

BUT  
WHAT IS  
THIS?

WE'RE-  
WELL, NOT  
OKAY, I  
GUESS.

I...UH,  
DUNNO?

THANKS

HAVE  
SOME  
TEA.

HFF!

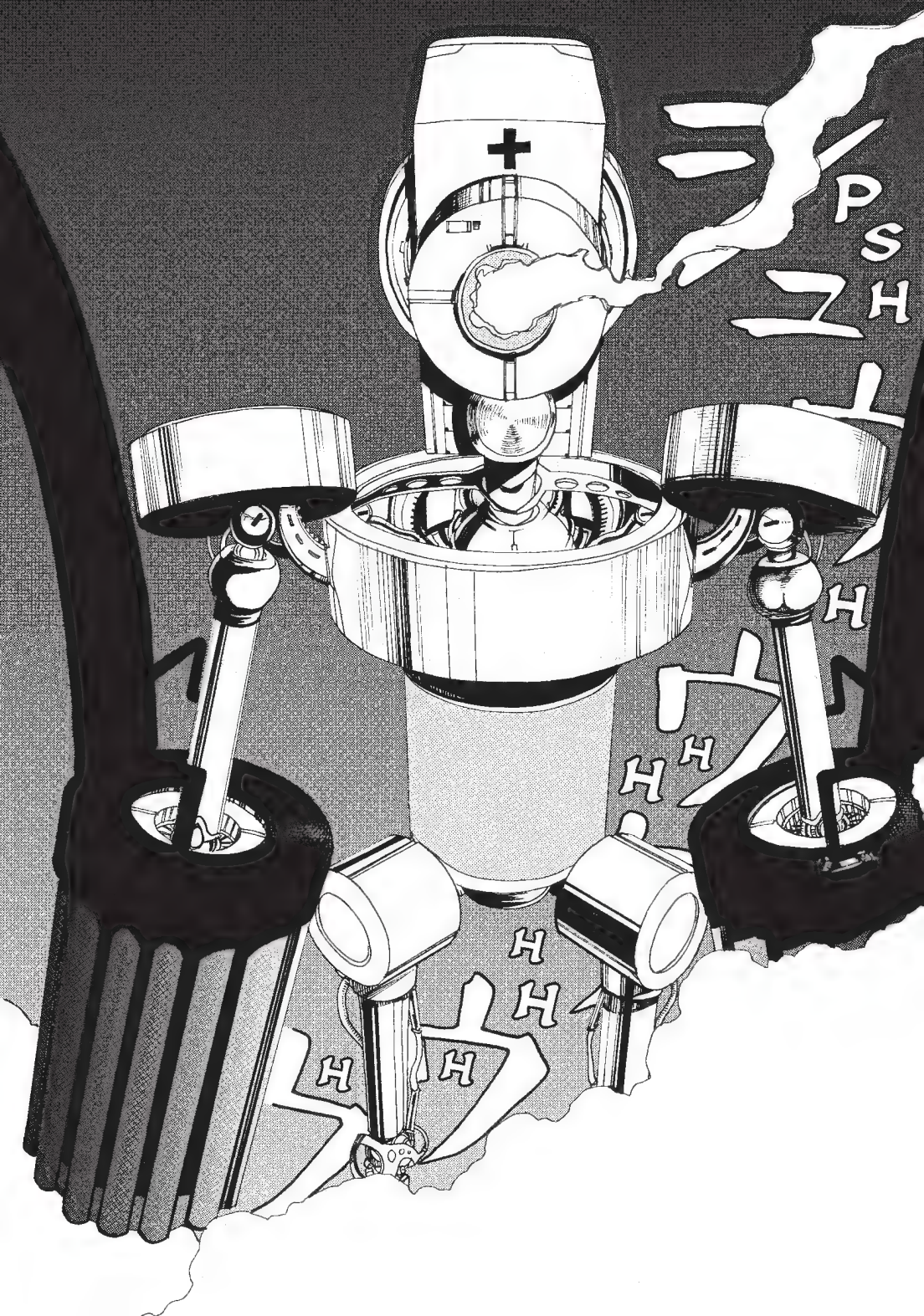
PSHHHHHHHT  
ユウウウウウウウ

HUH?

FLASH

カ  
イ

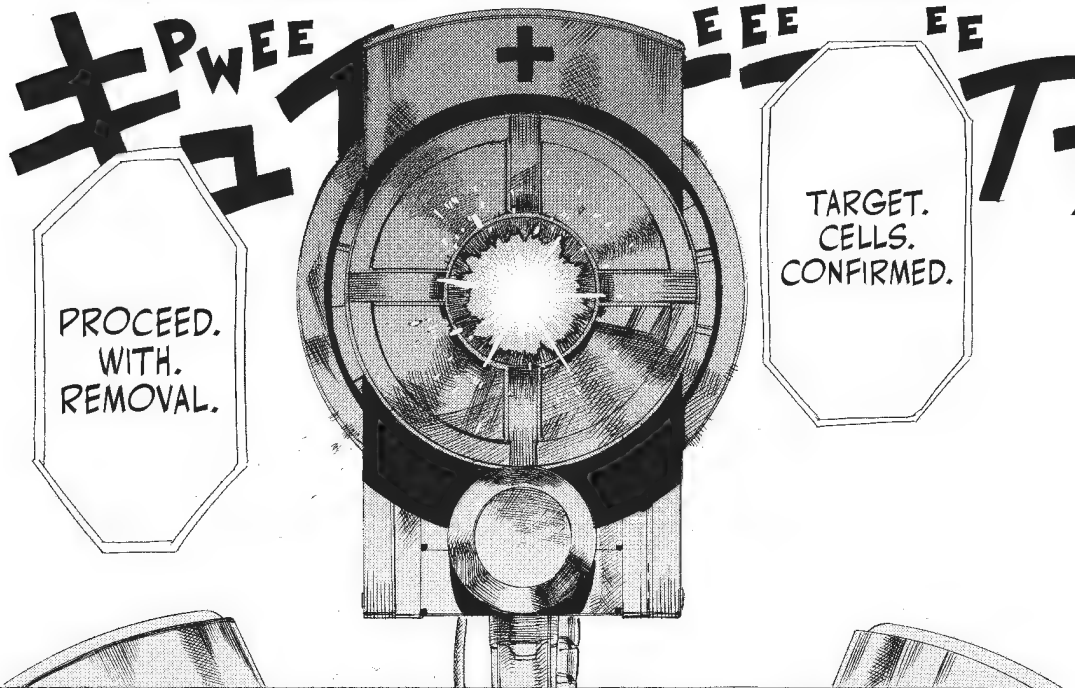






SOME-  
THING  
CAME  
OUT.

HEY...  
WHAT  
IS THAT  
THING?



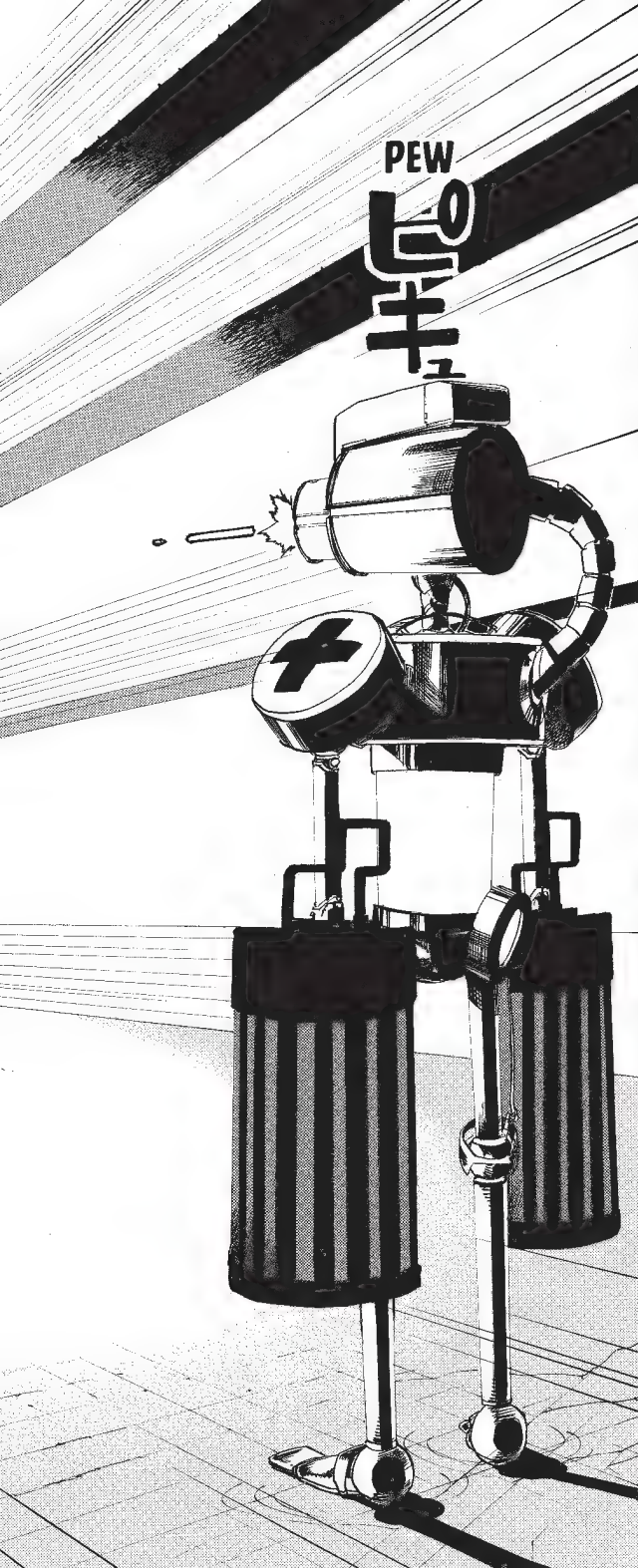
PROCEED.  
WITH.  
REMOVAL.

TARGET.  
CELLS.  
CONFIRMED.



...HUH?









**GWAH!!!**



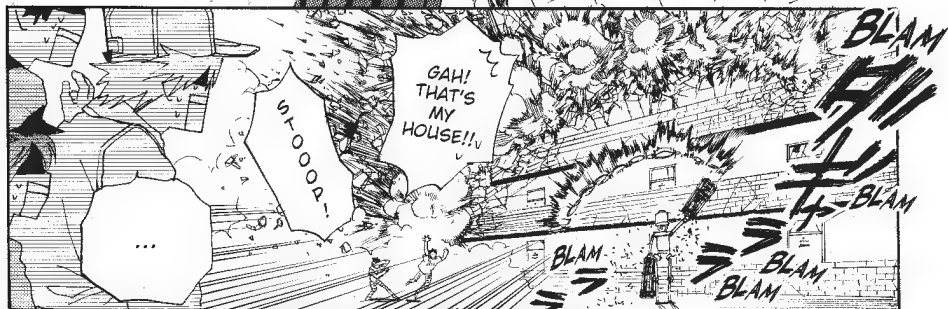
**HUH?!**

WHAT  
IS THAT?!  
WHY IS IT  
ATTACKING  
US?!

GA-SHINK

シャ  
キッ

REMOVING.



**STERIOD !!**

**Steroid (Adrenocortical Hormone)**  
 Medicine that suppresses allergic reactions and various symptoms triggered by histamines. It is extremely effective. In the case of pollen allergies, it can be administered orally, by nasal or eye drops, or via injection.

**Medicine** that suppresses allergic reactions and various symptoms triggered by histamines. It is extremely effective. In the case of pollen allergies, it can be administered orally, by nasal or eye drops, or via injection.

PEV





I'M SORRY!  
I DON'T  
UNDERSTAND  
WHAT'S  
GOING ON,  
BUT I'M  
SORRRYYY!



CAPTAIN,  
MORE TROUBLE!  
SOME STRANGE  
THING—



SORRY!  
WE'RE SORRY,  
B CELL AND  
MAST CELL!

YOU  
GUYS...  
YOU  
GUYS...

AAUGH  
!!

YOU GUYS  
WERE SO  
MUCH MORE  
CIVILIZED  
THAN THAT  
THING!!

HOW LONG  
IS THIS  
GONNA GO  
ON,  
ANYWAY?!

KABOOM

CEDARRRR

BLAM

BLAM

BLAM

BLAM

BLAM

BLAM

CEDARRRR

WHAM

SHOO

SHOO

WHAM

WHAM

WHAM

BAM

KABOOM

KABOOM

KABOOM

KABOOM

KABOOM

KABOOM

KABOOM

KABOOM

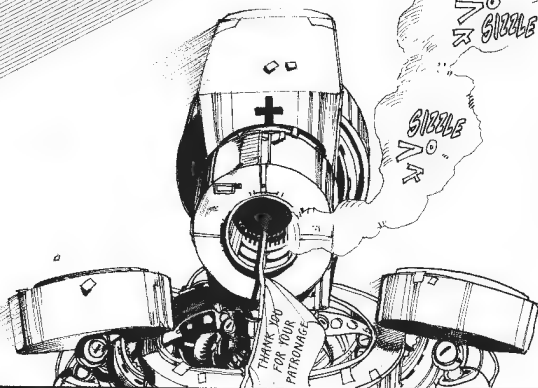
KABOOM

KABOOM

KABOOM

CRACK  
CRACK





THE  
STEROID  
RAN OUT OF  
BATTERIES  
AND  
STOPPED.



REAL-  
LY...

WELL,  
EVERY-  
THING  
TURNED  
OUT  
SWELL.

THE  
B CELL  
AND THE  
MAST CELL  
WERE ABLE  
TO COME TO  
AN UNDER-  
STANDING  
WITH THE  
TOWNS-  
PEOPLE,  
TOO.



THE  
ALLERGIC  
REACTION  
HAS  
SETTLED  
DOWN.

AND IN  
THE END, THE  
ALLERGENS  
DISAPPEARED  
ON THEIR  
OWN.

WHOO OOSH

...JUST  
SWELL.

#### Steroid Side Effects

Long-term use or large doses of  
steroids can cause side effects.  
It is important to use them in the  
manner and amounts prescribed.

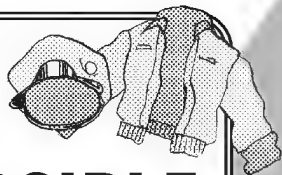
I'M...  
GOING TO  
REMEMBER  
THE EVENTS  
OF TODAY  
FOREVER.

CHAPTER 2: END



RED  
BLOOD CELL  
UNIFORMS  
ARE

**REVERSIBLE**



## ARTERIES

The bright-colored side faces out. Because they have to deliver oxygen and nutrients quickly, the Red Blood Cells in the arteries are in a bit of a rush.



## VEINS

The deeper-colored side faces out. Once they receive the carbon dioxide, all that the Red Blood Cells in the veins have to do is to head back to the lungs. They can take it a little slower.



**Cells at**  
**Work!**  
はたらく細胞

UGH...

WHAT IS  
THE DEAL  
WITH THIS  
TOWN?

CRACK  
CRACK

CLACK  
CLACK  
CLACK  
CLACK  
CLACK  
CLACK



SO CREEPY...

THERE  
ISN'T A  
SINGLE  
PERSON  
HERE...

WHAT'S  
GOING  
ON...?!



EEK...

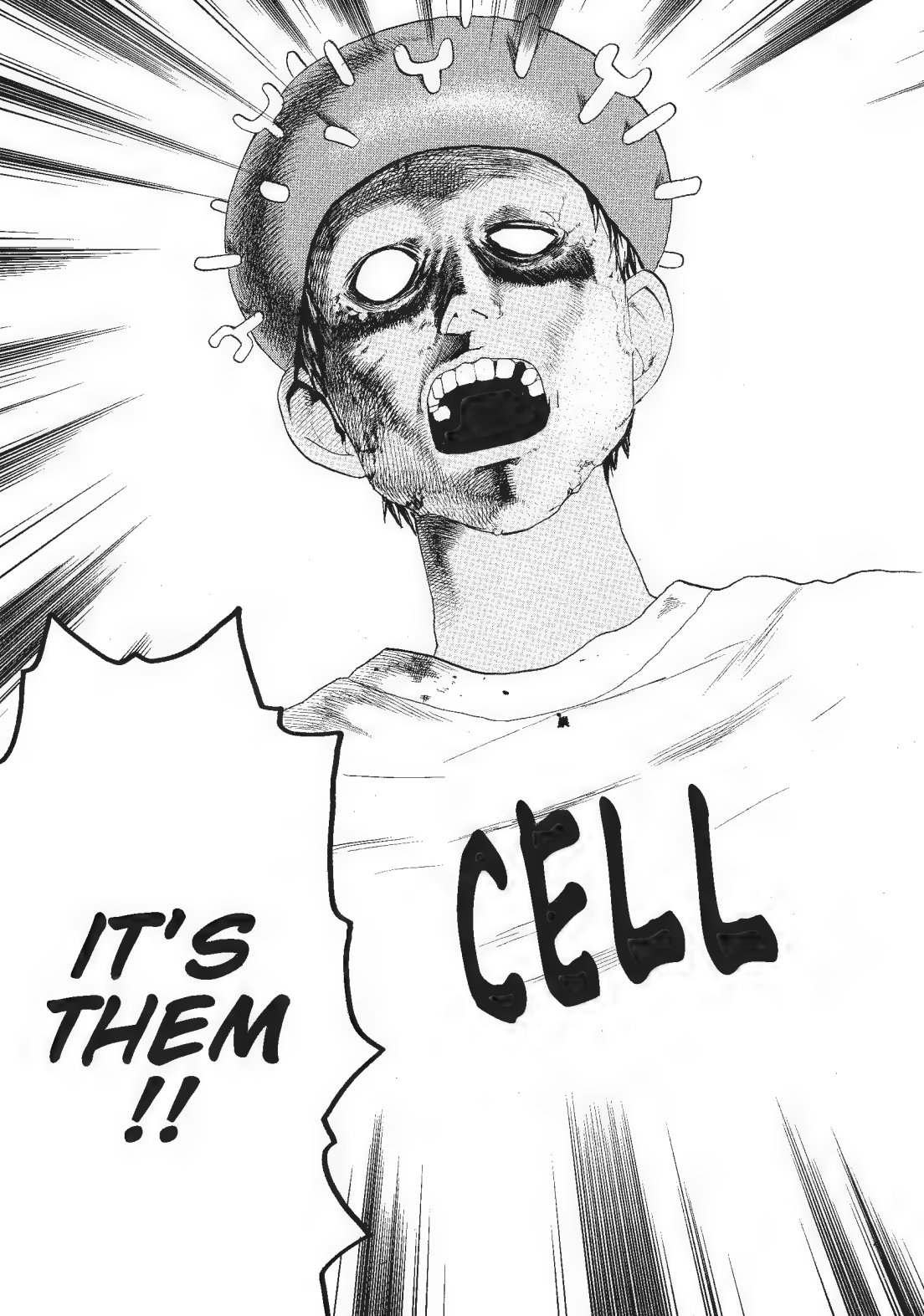




A-  
AAAAA  
AUGH!

CELL

CHAPTER 3: INFLUENZA



**CELL**

**IT'S  
THEM  
!!**







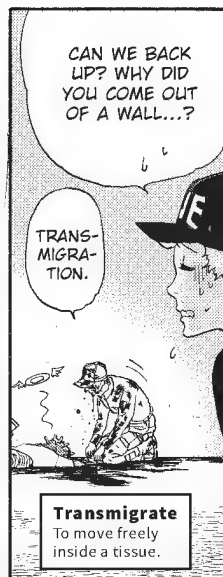


**White Blood Cell (Neutrophil)**

His main job is to destroy foreign substances that enter the body from the outside, such as bacteria and viruses. Neutrophils make up more than half of all white blood cells in the blood.

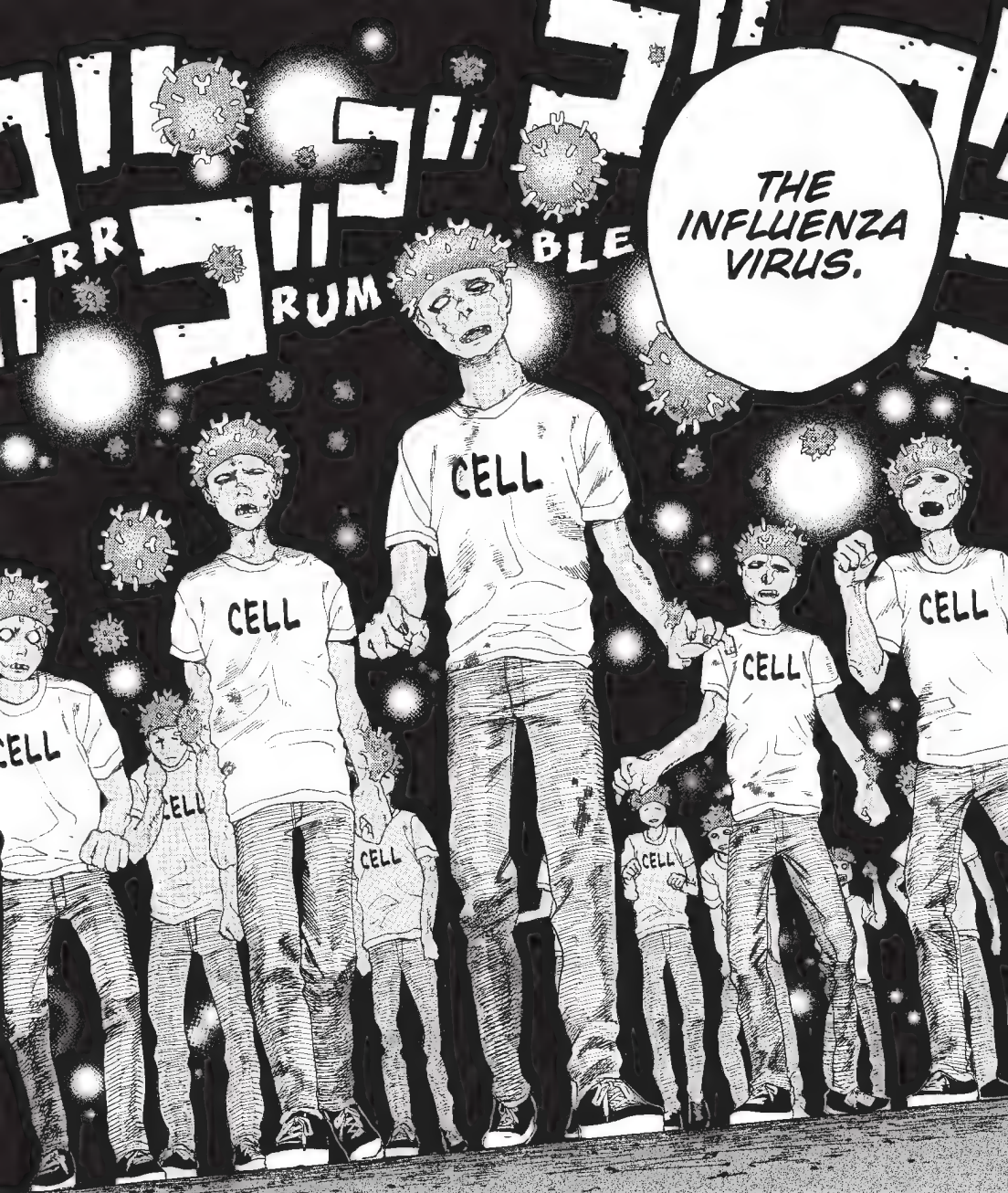


**Naive T Cell**  
An inexperienced T cell that has never encountered an antigen.



**Transmigrate**  
To move freely inside a tissue.





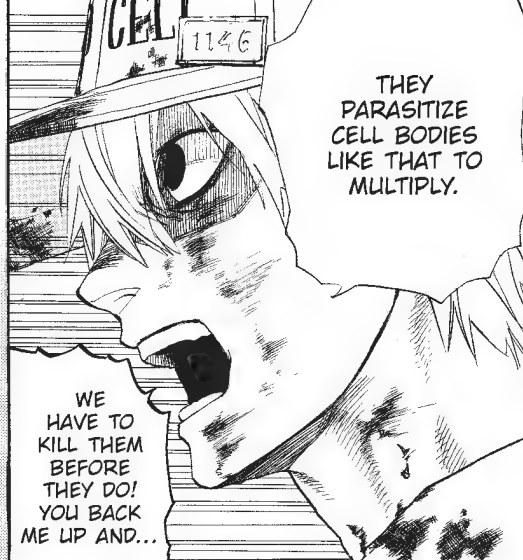
THE  
INFLUENZA  
VIRUS.

#### **Influenza Virus**

The virus responsible for the infectious disease influenza. Largely divided into Types A, B and C, it causes symptoms such as fever above 38° C, headache, and joint and muscle pain. Some new strains of the virus were previously not transmittable to humans, but became that way due to mutation.

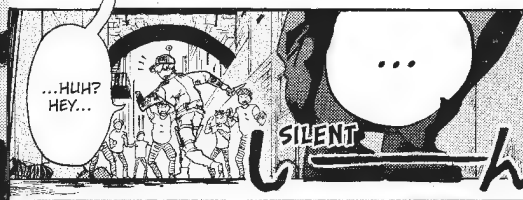
SHAKE  
ㄗ  
ㄗ

SHAKE  
ㄗ  
ㄗ



THEY  
PARASITIZE  
CELL BODIES  
LIKE THAT TO  
MULTIPLY.

WE  
HAVE TO  
KILL THEM  
BEFORE  
THEY DO!  
YOU BACK  
ME UP AND...



...HUH?  
HEY...

SILENT

CLACK  
ㄗ  
ㄗ

A  
LITTLE  
HELP  
HERE!

THE TWO OF  
US TOGETHER  
ARE DRAWING  
THEIR ATTEN-  
TION, SEE?

I  
CAAAAN'T!  
I'M  
SCARED!

H-  
HEY,  
COME  
ON.

I'LL JUST  
SIT STILL  
HERE SO I  
DON'T GET  
IN YOUR  
WAY!!

I CAN'T  
FIGHT A  
VIRUS! I  
CAN'T!



MY,  
MY.



AREN'T YOU  
A MEMBER OF  
THE T CELL  
FIGHTERS?



A  
MACHETE  
...?



OKAY,  
TIME TO  
GET TO  
WORK!>



L-LOOK  
OUT...

AH!

KUH!



TEE-HEE!  
ARE YOU  
GENTLE-  
MEN ALL  
RIGHT?

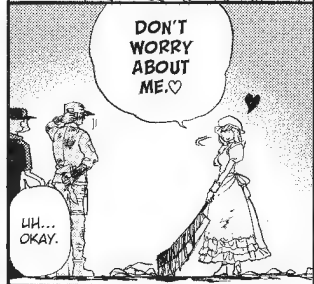
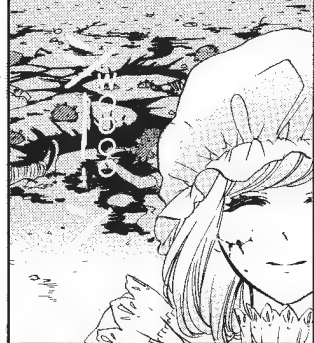
THE  
VIRUS  
SURE  
SEEMS TO  
HAVE  
MULTIPLIED  
A LOT.♡

### Macrophage

A type of white blood cell, these catch and kill foreign substances such as bacteria, and determine antigens and information on immune responses. They also act as cleaners who remove debris such as dead cells and bacteria.

**Macrophages' Attack Power**  
Quite high.







**Killer T Cells**  
(Cytotoxic T Cells)  
Deployed on the orders of a Helper T Cell, they kill virus-infected and cancerous cells.









**KILL  
EVERY  
LAST  
ONE--!!**



**KILL  
THEM!!**

**I'M  
SPEAKIN'  
FROM  
EXPERIENCE!**

**THESE VIRAL  
BASTARDS  
MULTIPLY WAY  
FASTER THAN  
BACTERIA!**

**LISTEN  
UP,  
LADIES!  
DON'T  
LET YOUR  
GUARD  
DOWN!**

**RIGHT,  
MEM-  
ORY T  
CELL!!**

**DON'T  
ALLOW A  
SINGLE  
CIVILIAN  
CASUALTY!**

**Memory T Cell**

A member of the Killer T Cells. They stand by so that they can attack if the same enemy appears a second time.



I'M A  
T CELL, TOO,  
AFTER ALL...  
JUST LIKE MY  
SENPAI...!!!



GRIP?

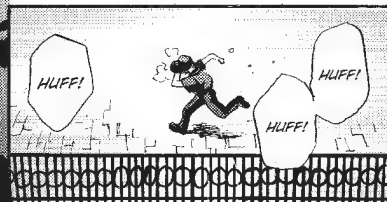
H-H-E'S  
RIGHT.

I HAVE  
TO DO  
MY PART,  
TOO...











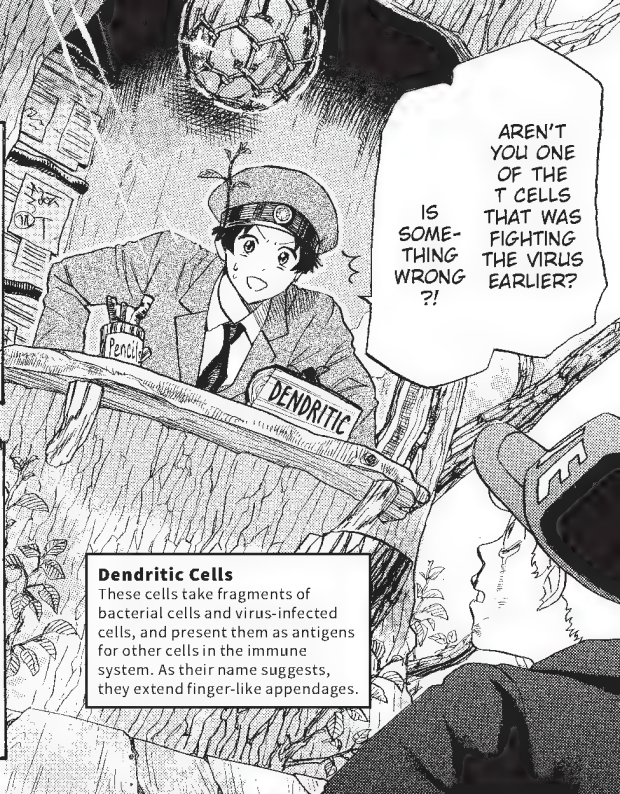
NH...!

OH,  
IS THE  
BATTLE  
GETTING  
TOUGH?

I CAN  
CALL  
FOR  
HELP...



WAAAHG!



AREN'T  
YOU ONE  
OF THE  
T CELLS  
THAT WAS  
FIGHTING  
THE VIRUS  
EARLIER?  
  
IS  
SOME-  
THING  
WRONG  
?!

#### Dendritic Cells

These cells take fragments of bacterial cells and virus-infected cells, and present them as antigens for other cells in the immune system. As their name suggests, they extend finger-like appendages.



THERE'S  
NO WAY I  
CAN FIGHT  
THOSE SCARY  
THINGS.



N-NO.

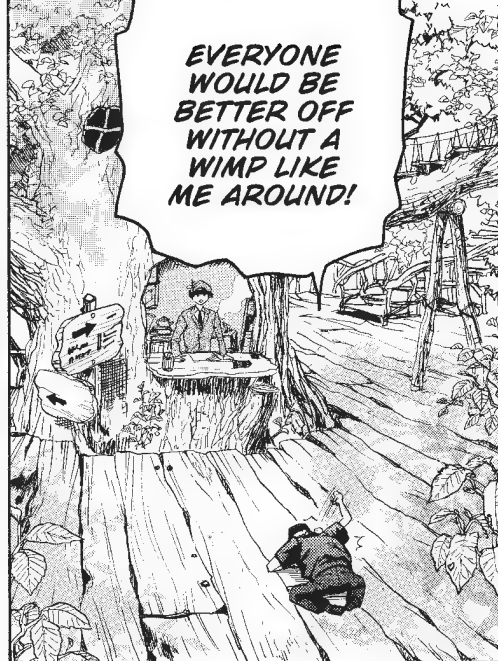
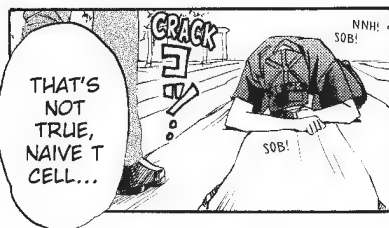
I RAN  
AWAY.



I'M NOT  
STRONG  
LIKE  
THEM!!!

I-I'M NOT  
LIKE WHITE  
BLOOD CELL  
OR  
MACROPHAGE  
OR MY  
SENPAI...







A-ARE  
THESE...  
OLD  
PICTURES  
OF MY  
SENPAI?!

THEY  
WERE ALL  
NAIVE  
T CELLS  
TO BEGIN  
WITH...!

### T Cell Differentiation

Upon recognizing an antigen, naive T cells activate to become effector T cells. They subsequently differentiate to become killer T cells, helper T cells, and other types.

HA  
EAVY

THERE'S A  
LOT MORE,  
SEE?

JUST  
LIKE  
ME...

THEY'RE  
CRYING...

YOUR  
SENPAI  
WERE ONCE  
NAIVE T  
CELLS JUST  
LIKE YOU.

DID  
YOU GET  
INFECTED  
BY THE  
VIRUS?

!?

HEY,  
WHAT'S  
THE  
MATTER?!

ICK  
ICK  
ICK  
ICK  
ICK

I FEEL AS  
IF A SEALED  
DARK HISTORY  
HAS BEEN  
REVEALED...

A NASTY  
CHILL...

I'M  
FEEL-  
ING  
ALL  
ICKY,  
TOO.

DON'T  
BE  
SILLY.

KILL

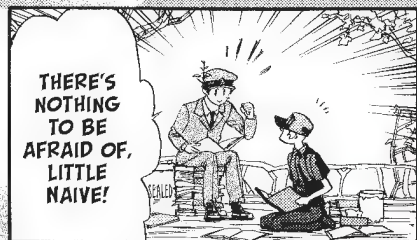


I SEE NOW...



COULD IT BE THAT THE OTHER T CELLS ARE HARSH ON YOU...

...BECAUSE THEY SEE THEIR OLD SELVES IN YOU?



THERE'S NOTHING TO BE AFRAID OF, LITTLE NAIVE!



...AND MACROPHAGE RELAYS INFORMATION ABOUT THEM.



WHITE BLOOD CELL PATROLS THE BODY TO FIND ENEMIES...



THAT'S WHY HELPER T CELL CAN GIVE THE ORDERS...

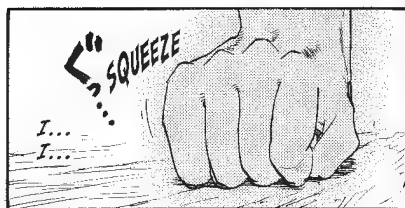


SEE?!

YOU HAVE FRIENDS WHO WORK TOGETHER... AND DO THEIR JOBS WITH PRIDE!

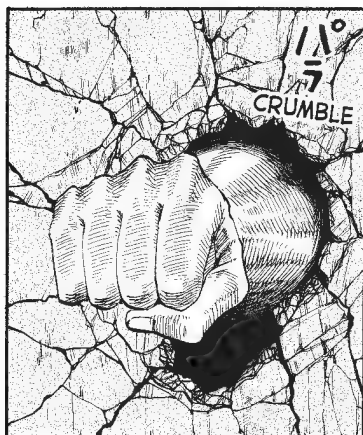
...SO THAT KILLER T CELLS CAN DEFEAT THEM.











WHO IS  
THAT...?

WH—

MY FRIENDS...  
I'M SORRY  
THAT YOU HAD  
TO SEE MY  
SHAMEFUL  
BEHAVIOR  
EARLIER.

CRUNCH

CRUNCH  
CRUNCH

BUT I WAS  
ABLE TO  
OVERCOME  
THE OLD,  
WEAK ME...

...AND  
RETURN  
HERE,  
**ACTIVATED.**





I'M THE  
FORMER  
NAIVE  
T CELL.

HE'S  
ACTI-  
VATED  
NOW?!

**Effector T Cell**  
A naive T cell that  
has been activated.



I'VE ALSO  
UNDER-  
GONE CELL  
DIVISION.

HE'S  
MULTI-  
PLIED,  
TOO?!

MARCH

NOW WE'RE A  
HUNDRED CELLS  
STRONG—  
LITERALLY!!!

WHOA!  
NAIVE  
FINALLY  
DID IT!

UM...  
THIS IS  
KINDA  
SCARY,  
ACTU-  
ALLY.

I'M  
HERE,  
TOO!!

**B Cell (Antibody-  
Producing Cell)**

A type of lymphocyte  
that makes weapons  
called antibodies to  
fight antigens such as  
bacteria and viruses.

OKAY,  
LET'S  
GO!

WE'LL  
WIPE  
THEM  
OUT  
IN NO  
TIME...

UM...  
HELLO?

B CELL  
AT YOUR  
SERVICE!  
I CAME  
BACK WITH  
ANTI-  
BODIES!

WITH  
THESE,  
YOU'VE  
GOT  
NOTHING  
TO FEAR!

RIGHT!

...EXTER-  
MINATE  
THE  
VIRUS!

LET'S  
DO IT...  
TOGETHER,  
WE'RE  
GONNA...

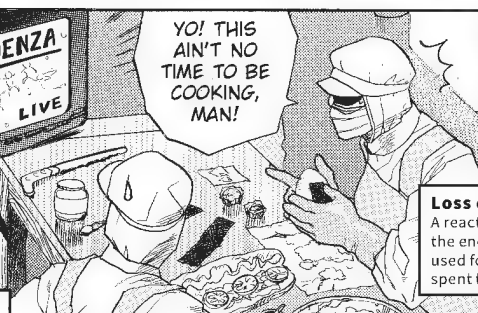
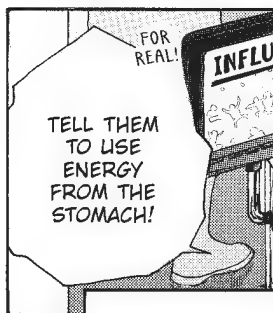
YEAH!

HELLO  
...?



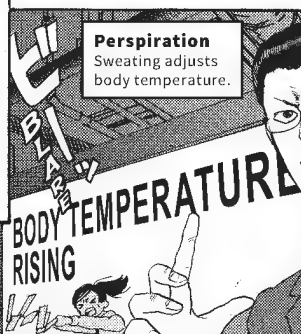
### Fever

Raising the body temperature suppresses the multiplication of bacteria and viruses. It also prompts activation of immune response cells.



### Loss of Appetite

A reaction in which the energy usually used for digestion is spent to fight illness.



### Perspiration

Sweating adjusts body temperature.



...THE INFLUENZA VIRUS WAS ERADICATED FROM THE BODY.

ONE WEEK LATER...



WE  
DID  
IT!

CRAB



NO  
BACTERIUM  
OR VIRUS  
STANDS  
A CHANCE  
AGAINST  
US!!

T CELLS  
ARE THE  
GREATEST!!

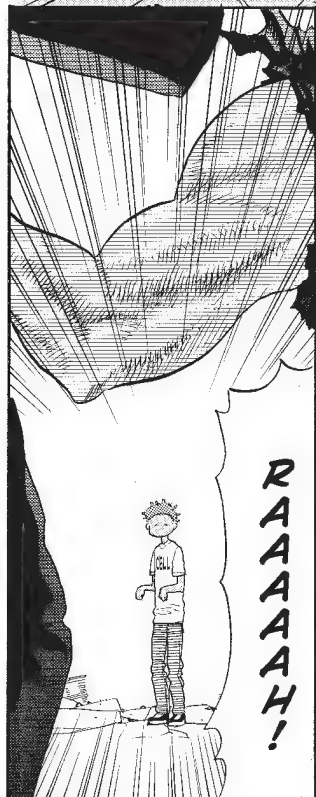
AH  
HA  
HA  
HA  
HA!

HEEEY!



GAH! A  
VIRUS!

LOOKS  
LIKE  
THERE'S  
A NEW  
ONE.



R A A A A H!

HEH...  
WHAT FOLLY...  
WHEN TENS OF  
THOUSANDS OF  
ITS BRETHREN  
ALREADY LAY  
DEAD...

FLY  
STEP!

CONFIDENT  
NOW, ARE  
YOU?



LET US AT  
LEAST KILL  
IT QUICKLY,  
SO THAT IT  
DOES NOT  
SUFFER.





...WHA?



THEN...

MAYBE...



H-HUH?  
THE  
ANTIBODY  
ISN'T  
WORKING.





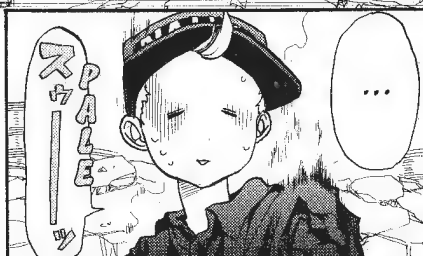
BOOM!

### Type A Influenza Virus

Many viruses of this type mutate inside the body and are more likely to cause pandemics.



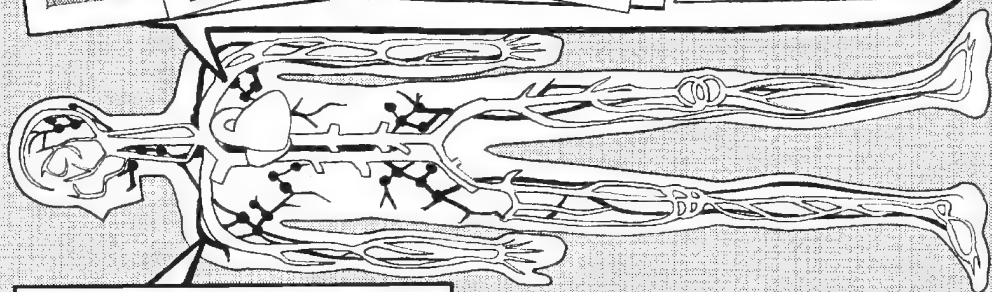
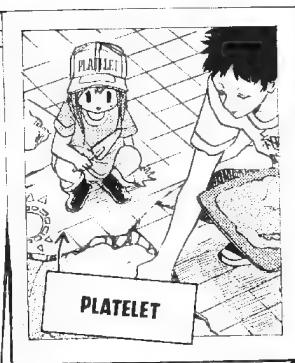
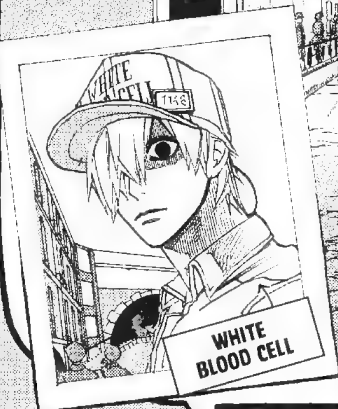
COULD  
IT BE A...  
TYPE A  
INFLUENZA  
VIRUS?



CHAPTER 3: END

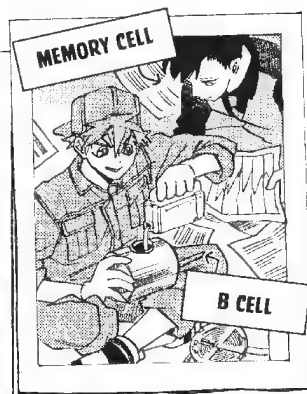
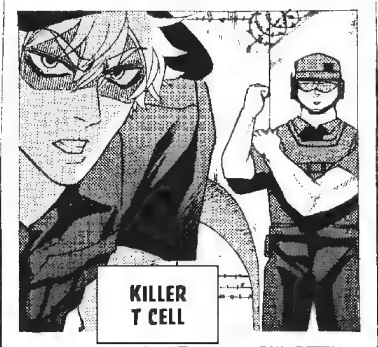
# BLOOD VESSELS

- Transports nutrients and oxygen, and collects waste and carbon dioxide.
- The workplace for white blood cells, red blood cells, and platelets.



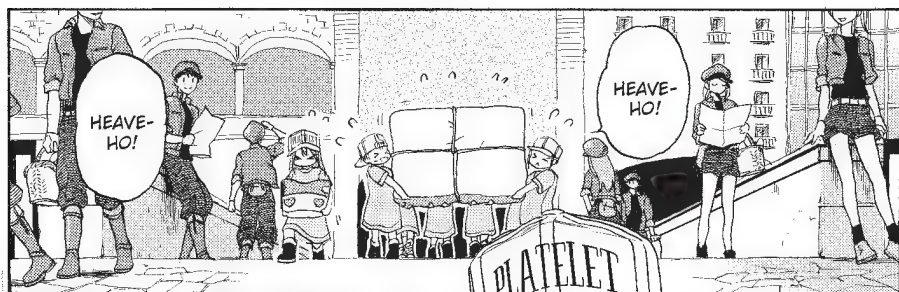
# LYMPHATIC VESSELS

- Collect excess water and fat, as well as germs. They are patrolled by an army known as lymphocytes, who are prepared for any emergency.

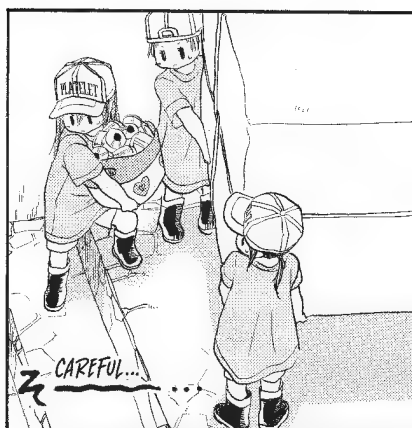
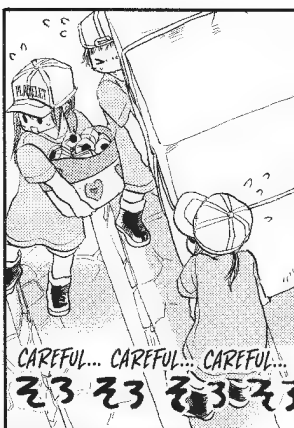
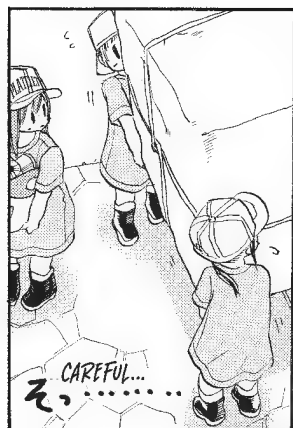


**Cells at**  
**Work!**  
はたらく細胞





**Platelet**  
A cellular constituent of blood. They gather when blood vessels are damaged and close the wound to stop bleeding.



## CHAPTER 4: SCRAPE WOUND

わい  
わい  
CHATTER

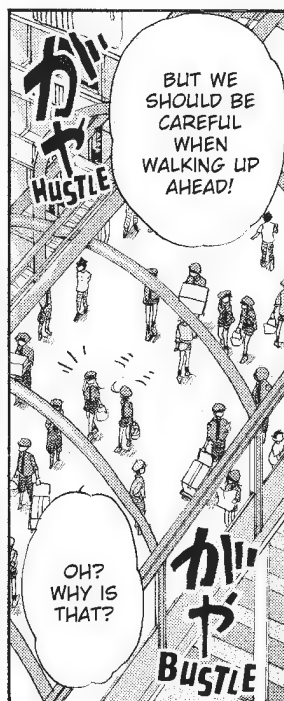
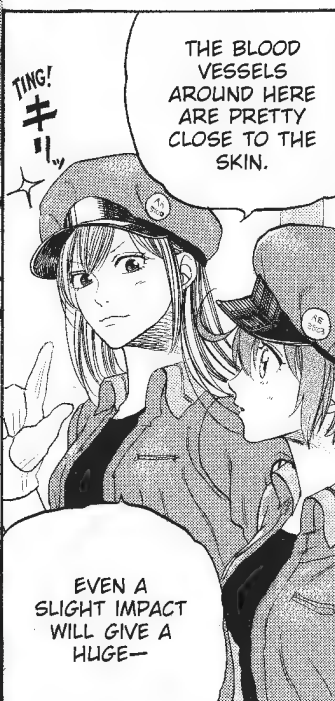
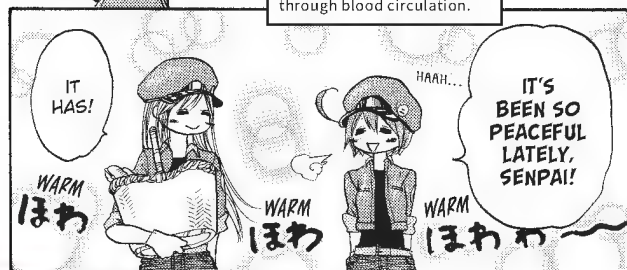
WE  
MADE IT  
DOWN!!

THINGS  
HAVE BEEN  
PEACEFUL  
INSIDE  
THE BLOOD  
VESSELS  
LATELY.

CHATTER  
わい  
わい

OH, I  
DROPPED  
ONE.  
SOME-  
ONE  
PICK IT  
UP!

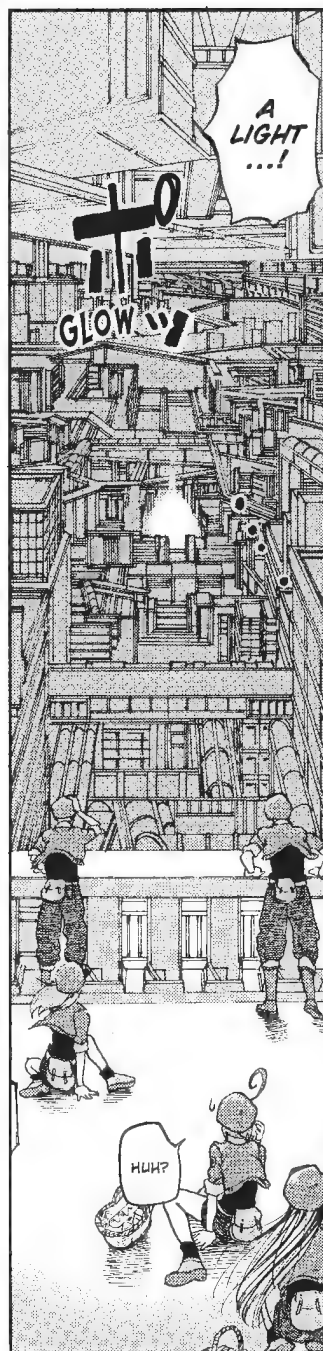
ROLL  
ROLL  
ROLL







W H A A A T ? !



HUH  
...?!



H-HEY,  
LOOK  
OVER  
THERE!!

WHAT  
WAS  
THAT  
IMPACT  
?!

KABOOM

オオオ

WHAT  
THE  
WHAT  
?!!!









WHAT  
IS THIS?  
NO,  
REALLY,  
WHAT?

HEY.

SO WE  
MEET  
AGAIN.

**White Blood Cell (Neutrophil)**

His main job is to destroy foreign substances that enter the body from the outside, such as bacteria and viruses. Neutrophils have cell adhesion molecules called L-selectin that allows them to stick to the inside of vascular endothelial cells.

IT'S  
JUST  
WHAT IT  
LOOKS  
LIKE!

W-  
WHITE  
BLOOD  
CELL-  
SAN!



CAUSING  
THE BLOOD  
CELLS TO  
LEAK OUT.  
IN OTHER  
WORDS—

...DUE  
TO AN  
IMPACT  
FROM THE  
OUTSIDE...

THE  
OUTER  
WALLS  
OF THE  
BLOOD  
VESSEL  
BROKE...



A  
SCRAPE  
WOUND.

IF YOU  
FALL FROM THIS  
OPENING, IT'S  
ALL OVER. YOU'LL  
NEVER BE ABLE TO  
MAKE IT BACK TO  
THIS WORLD.

**Scrape Wound  
(Abrasive Injury)**  
An injury made by  
scraping, no deeper  
than the epidermis.



THEY'RE  
HERE!  
GET  
DOWN!!

DON'T  
WORRY...  
THIS  
WOUND  
WILL  
CLOSE IN  
TIME.

BUT  
THERE'S  
SOMETHING  
WE HAVE  
TO WORRY  
ABOUT  
BEFORE  
THAT.

AND  
THAT'S  
...



THAT  
SOUNDS  
REALLY  
SERIOUS!  
WE HAVE TO  
DO SOME-  
THING...!

IT'S ALL  
OVER  
IF WE  
FALL...?

SHH!  
QUIET!







THIS  
ISN'T  
BAD...

**Staphylococcus Aureus**

A bacterium that lives on the skin and in the pores. Highly virulent, and can cause skin infections, pneumonia, meningitis and septicemia when it enters through the trauma (injury) site. Can also cause food poisoning when ingested.

RUMBLE

YOU  
GUYS  
GET  
OUT OF  
HERE!!

O-  
OKAY!!

WHAM

YES,  
MA'AM!

DEAL  
WITH  
THEM.









**Pseudomonas Aeruginosa**

A representative common bacteria that lives in the natural environment. Causes pseudomonas infections.

**GWA HA HA  
HA HA HA!!  
THIS BODY  
BELONGS TO  
US NOW!!**

**RED BLOOD  
CELLS CARRYING  
NUTRIENTS, LINE  
UP RIGHT THERE!  
WE'LL KILL THE  
ONES WHO  
AREN'T CARRYING  
ANYTHING!!**

**Streptococcus Pyogenes**

Lives in the pharynx, the digestive organs, and the skin, among other places. It is a commonplace bacterium but can cause many diseases.

**OH NO,  
BACTE-  
RIAAA!!**

**AAAH!  
AAAH!  
AAAH!**

**PANIC**



OPEN UP!!

OH NO,  
THERE'S A  
VALVE!!

**Venous Valve**

These prevent blood from flowing backwards. They force the blood traffic in the veins to be one-way, heading toward the heart.

**STAMPEDE**



GWAA  
AAAAA  
AGH!!?



HA HA  
HA HA  
HA HA!!

HN?



EEEEK!  
IT'S  
GOING  
TO KILL  
ME!!



WHOA!

HUH  
...?



DING  
DONG

KILL!

WHERE  
IS THIS  
SCRAPE  
WOUND?!

I-IT'S  
THE WHITE  
BLOOD  
CELLS...

WHERE'RE  
THE  
BACTERIA?!  
WHERE ARE  
THEEEEEEEY?!

I THINK  
IT'S TOO EARLY  
TO SAY THAT.  
AREN'T THERE  
TONS OF GERMS  
COMING IN?

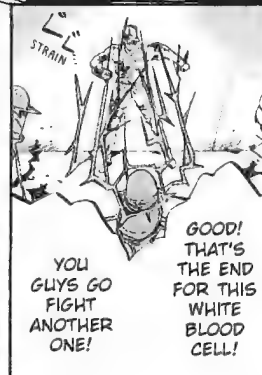
AND FALLING  
INTO THE WOUND  
IS THE END.

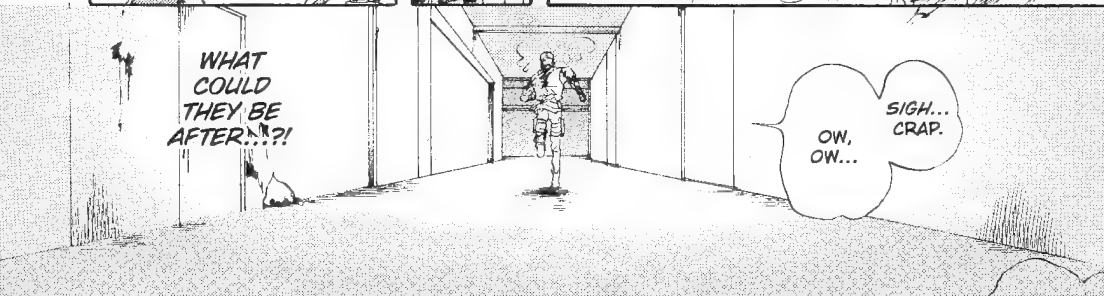
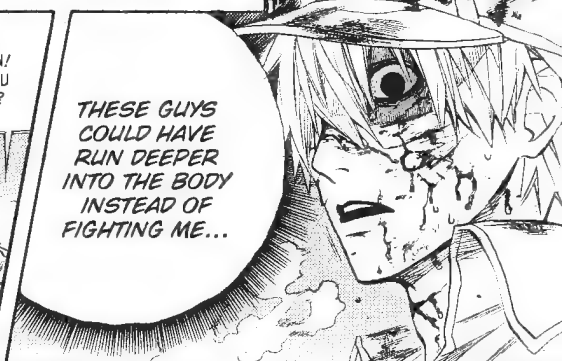
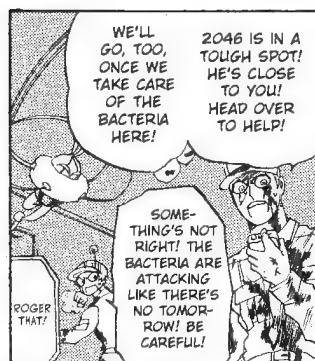
WELL...  
I GUESS  
WE HAVE TO  
COUNT ON  
THEM TO  
DO THEIR  
BEST...

SO ALL  
THE WHITE  
BLOOD CELLS  
REALLY ARE  
WEIRDOS.

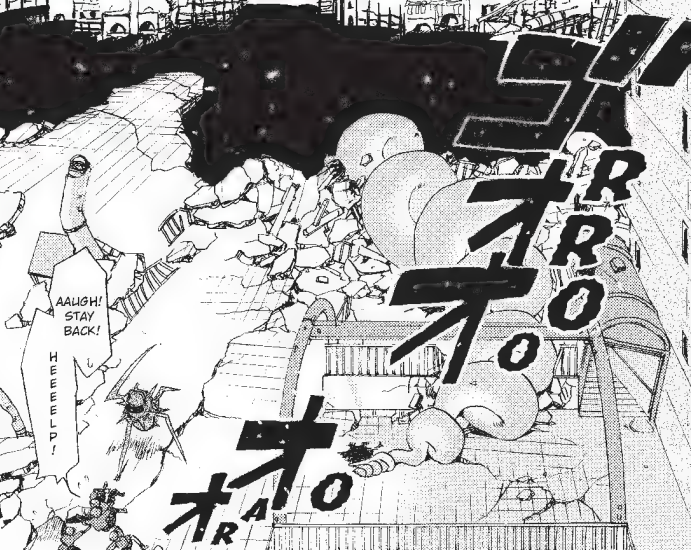
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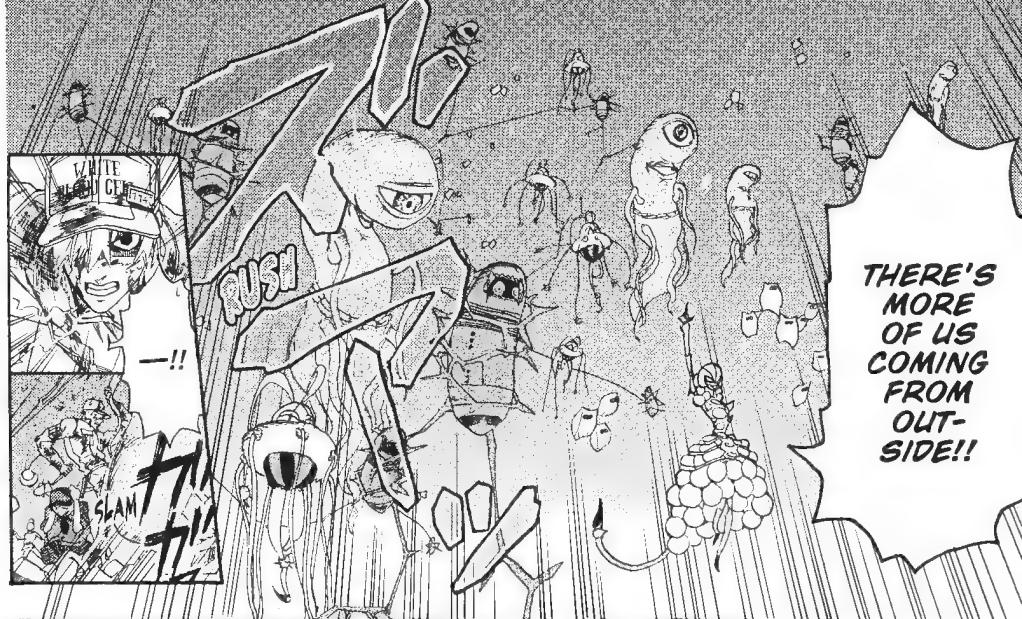




















HO HO  
HO HO!  
WHAT A  
PATHETIC  
EXISTENCE  
YOU NEU-  
TROPHILS  
HAVE.

AH HA  
HA HA,  
YOU POOR  
THING!

BUT WHEN  
YOU'RE  
IN NEED,  
NOT A SOUL  
COMES TO  
YOUR AID.

DAY  
AFTER  
DAY, YOU  
FIGHT TO  
PROTECT  
THE  
OTHER  
CELLS...



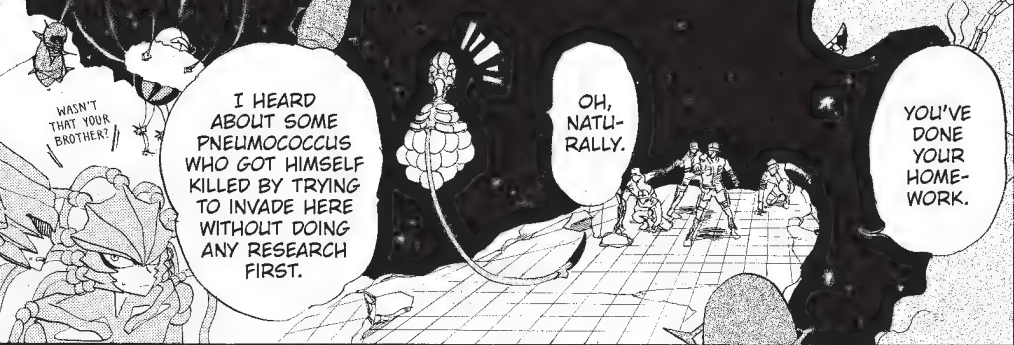
HMM.

SO YOU  
CALL US  
"NEUTROPHILS"  
INSTEAD OF  
"WHITE BLOOD  
CELLS"?



AREN'T YOU  
EXHAUSTED  
BY NOW?!

IT'S ALL YOU  
CAN DO TO  
HOLD ON  
AND NOT  
FALL IN!!



WASN'T  
THAT YOUR  
BROTHER?

I HEARD  
ABOUT SOME  
PNEUMOCOCCUS  
WHO GOT HIMSELF  
KILLED BY TRYING  
TO INVADE HERE  
WITHOUT DOING  
ANY RESEARCH  
FIRST.

OH,  
NATU-  
RALLY.

YOU'VE  
DONE  
YOUR  
HOME-  
WORK.



...AND THAT  
THE STRONGER  
ONES LIKE  
**MACROPHAGES**  
AND  
**MONOCYTES**  
COME LATER!

I'VE  
LOOKED  
INTO YOU  
IMMUNE  
SYSTEM  
LOT...

I KNOW THAT  
THE FIRST TO  
RESPOND TO  
BACTERIA ENTERING  
A WOUND ARE  
SMALL FRY CALLED  
**NEUTROPHILS...**

I ALSO KNOW  
THAT THE ARMY  
KNOWN AS THE  
**LYMPHOCYTES**  
ARRIVE EVEN  
LATER.

...AND  
VICTORY IS  
OURS!!!



SO YOU SEE?  
ALL WE HAVE  
TO DO IS TAKE  
CURE OF YOU  
**NEUTROPHILS...**

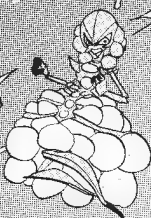
WHA-  
YOU  
BLOCKED IT?!  
HOW COULD  
YOU HAVE  
THAT KIND OF  
WILLPOWER  
LEFT...?



CLANG



WH-  
WHAT  
?!



STRAIN



HUH...  
A  
PRETTY  
LAME  
PLAN.

...BUT A  
POWER-  
FUL ALLY  
IN OUR  
FIGHT.

NOT  
MACROPHAGES  
OR  
MONOCYTES  
OR KILLER  
T CELLS OR  
B CELLS...



YOU'VE  
OVERLOOKED  
ONE TYPE OF  
BLOOD CELL.

WHEEZE

WHEEZE





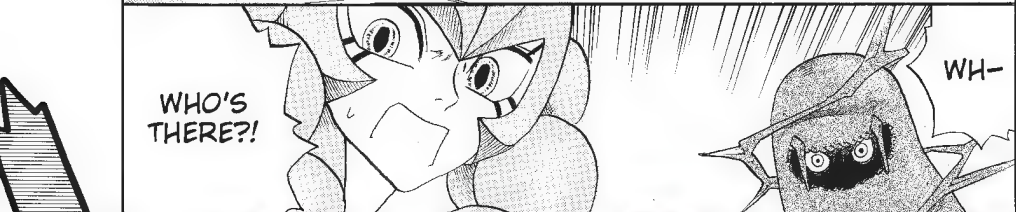
...TO  
COM-  
PLETELY  
TURN  
THE  
TABLES  
ON  
YOU!!

TRUE  
PROS,  
WITH THE  
POWER...



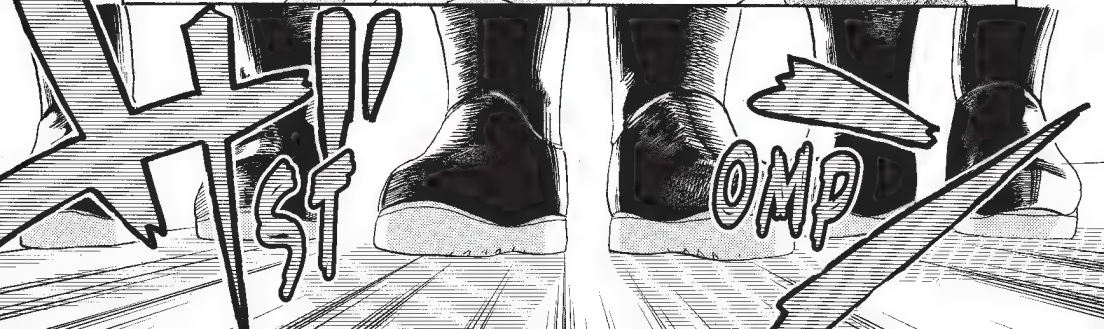
STEP

PO



WHO'S  
THERE?!

WH-



ST

OMP

**THANK  
YOU FOR  
YOUR  
HARD  
WORK!!**









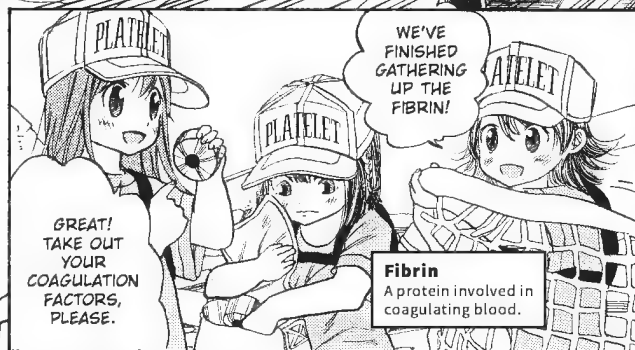
COVER  
THE  
PLATE-  
LETS!!

WHAT'S  
WITH  
THESE  
KIDS?!  
WHOA—

THANK  
YOU!

SHUFFLE SHUFFLE

SWISH



GREAT!  
TAKE OUT  
YOUR  
COAGULATION  
FACTORS,  
PLEASE.

WE'VE  
FINISHED  
GATHERING  
UP THE  
FIBRIN!

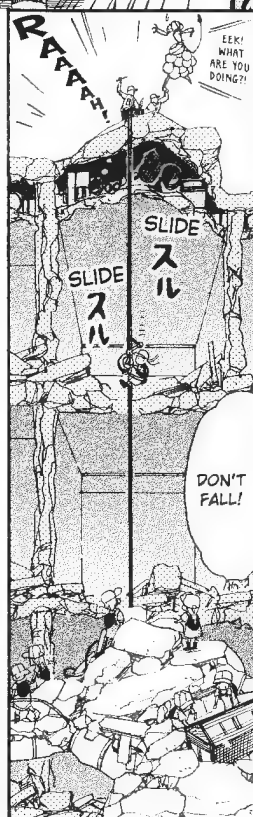
**Fibrin**  
A protein involved in  
coagulating blood.



HERE  
WE  
GO!



USE THE  
COAGULATION  
FACTORS TO PATCH  
TOGETHER  
THE FIBRIN.



EEK!  
WHAT  
ARE YOU  
DOING?!

SLIDE  
スリ

SLIDE  
スリ

DON'T  
FALL!



WHAA?!

STAPH,  
LOOK  
THERE...

はっ! TOSS  
WHEEE!

NOW  
WE CAN  
BEGIN THE  
CLEANUP.



THROMBUS,  
COMPLETE!!



#### Thrombus (Blood Clot)

Activated platelets aggregate to close the wound. They do so with a protein called the "von Willebrand factor", which acts like super-glue. Then, proteins in the blood known as "coagulation factors" work to coat the clot with a net of fibrin, hardening it.





GA  
A  
A  
AA  
H!

TOO  
LATE  
NOW!!!



3  
4  
5  
6



**BOMPF**

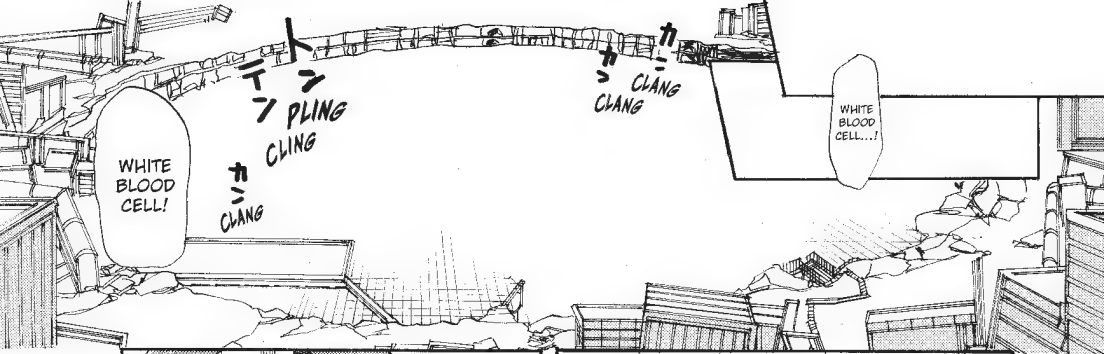
PHEW.

HEY,  
4989,  
YOU'RE  
ALIVE!

YUP.

I WAS SO  
SCARED.

**GOOD  
WORK,  
EVERY-  
ONE!!**



UM...  
THANK  
YOU SO  
MUCH...  
REALLY.



WE  
WERE  
JUST  
DOING  
OUR  
JOBS.

NO,  
NO  
NEED  
TO  
THANK  
ME.



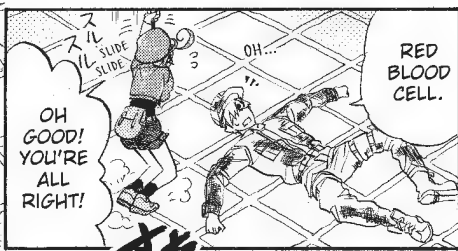
OH!

THERE  
YOU ARE,  
WHITE  
BLOOD  
CELL!!

SHAKE  
3!!  
3!!  
SHAKE



NO! NO, NO!  
I CAME HERE  
BECAUSE I  
JUST HAD TO  
THANK YOU!



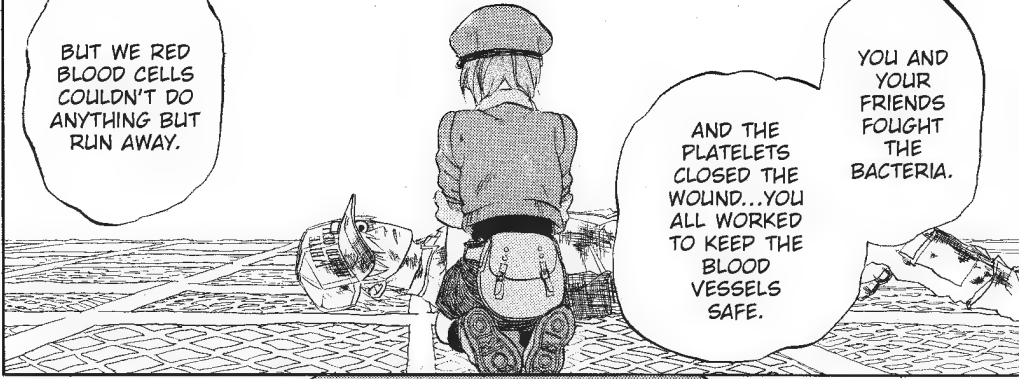
OH  
GOOD!  
YOU'RE  
ALL  
RIGHT!

OH...

RED  
BLOOD  
CELL.

すた、  
LAND





BUT WE RED  
BLOOD CELLS  
COULDN'T DO  
ANYTHING BUT  
RUN AWAY.

AND THE  
PLATELETS  
CLOSED THE  
WOUND...YOU  
ALL WORKED  
TO KEEP THE  
BLOOD  
VESSELS  
SAFE.

YOU AND  
YOUR  
FRIENDS  
FOUGHT  
THE  
BACTERIA.

HA  
HA

THE LEAST  
I COULD  
DO IS TO  
THANK YOU  
PROPERLY.



NOTE  
I USED  
THE  
PRESENT  
PRO-  
GRES-  
SIVE  
TENSE.



WASAD

BUT...  
THANKING  
YOU IS  
ABOUT  
ALL THAT  
I CAN  
DO.



RED  
BLOOD  
CELL...  
YOU'RE  
BEING  
HELPFUL  
RIGHT  
NOW,  
TOO.

HUH?

NO...  
  
THAT'S  
NOT  
TRUE,  
ACTU-  
ALLY...



CROWD

MY  
SENPAI ARE  
TIED UP IN  
FIBRIN AND  
BEING LED  
AWAY BY  
THE LITTLE  
PLATELETS!

HUH?!

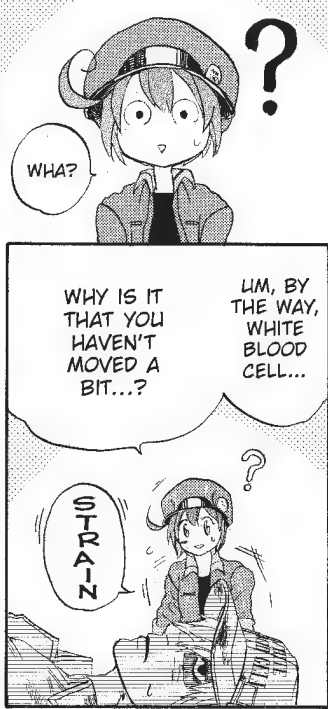


?!  
AIR  
HIT  
TRY

I CAN'T  
MOVE!!

WH-  
WHAT?!  
I'M STUCK  
TO THE  
FIBRIN!

YUP...



?

WHA?

WHY IS IT  
THAT YOU  
HAVEN'T  
MOVED A  
BIT...?

UM, BY  
THE WAY,  
WHITE  
BLOOD  
CELL...

STRAIN

?



...UNTIL THE CELLS MAKING UP THE OUTER WALL CAN BE HEALED...

WHEN A HOLE OPENS UP IN A BLOOD VESSEL...



UH, THAT'S GREAT AND ALL, WHITE BLOOD CELL, BUT...

THIS IS CALLED SECONDARY THROMBOSIS...

...THE BODIES OF US BLOOD CELLS ARE USED TO PLUG UP THE HOLE.



THREE MORE DAYS, MAYBE...?

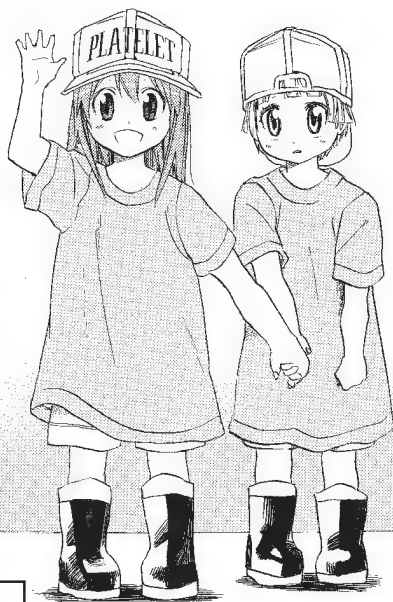
HOW LONG ARE WE SUPPOSED TO STAY LIKE THIS?!

WHEN TISSUE FLUID LEAKS OUTSIDE THE BLOOD VESSEL THROUGH THE WALL OF CELLS AND DRIES, IT MAKES A SCAB, SEE?

CHAPTER 4: END



**COME  
SEE US  
AGAIN  
SOON!**



**CELLS AT WORK! VOLUME 1: END**

...AND HOW DO THEY REACH THEIR FULL POTENTIAL AS CELLS?



**NEXT VOLUME!**

WHITE BLOOD CELLS, RED BLOOD CELLS-WHERE ARE THEY BORN...

**THEY HAVE A DREAM AND A DUTY!**

I WANNA  
GROW UP  
TO BE AN  
AWESOME  
RED BLOOD  
CELL,  
TOO!!

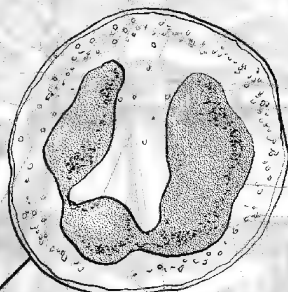
I...  
I DON'T  
WANNA  
DIE  
HERE!!

THE YOUNG CELLS WILL COME OF AGE AND  
FACE THEIR MYSTERIOUS DESTINY!!

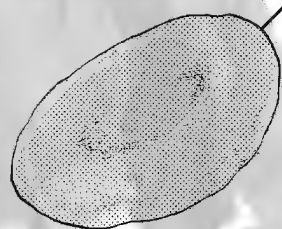
Cells at  
はたらく細胞 Work!



**WHITE  
BLOOD  
CELL**



**RED  
BLOOD  
CELL**



# TRANSLATION NOTES

## Bye-bye, Germs

Page 11

"Bye-bye, Germs," or "*Baibai-kin*" in the original Japanese, is the parting line of the main villain Baikin Man (Germ Man) from the popular, long-running children's cartoon *Anpan Man*. It is a pun combining the English phrase "Bye-bye" and the Japanese word "*baikin*," meaning "germ." In the original Japanese, the sign is written in the 5-7-5 meter of a haiku poem, which is a common practice in educational messages for children as well as in public service slogans.



## Senpai

Page 115

The Japanese word "*senpai*" roughly translates to "upperclassman" or "senior." While it is used by students to refer to their older peers, it is not necessarily an academic term, and can be used to refer to anyone in a given situation who's more experienced than the speaker but not necessarily in a position of authority over them, as opposed to a teacher or a boss, who would not be considered a *senpai*. It often connotes respect and admiration.



## A Body Strong Against Stress

Page 50

This is a parody of popular municipal slogans—e.g. "A Town Strong Against Crime" for Yokohama City. The slogans usually seek to promote a set of policies or infrastructure designed to combat a specific problem.

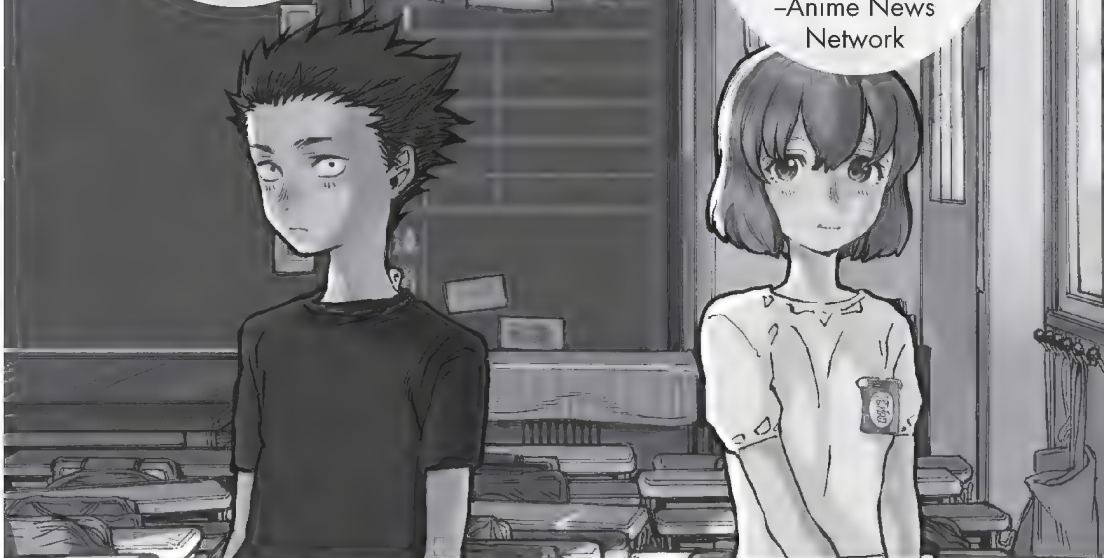
**KODANSHA  
COMICS**

# a Silent Voice

"A harsh and biting social commentary... delivers in its depth of character and emotional strength." -Comics Bulletin

"The word heartwarming was made for manga like this."  
-Manga Bookshelf

"A very powerful story about being different and the consequences of childhood bullying... Read it."  
-Anime News Network



Shoya is a bully. When Shoko, a girl who can't hear, enters his elementary school class, she becomes their favorite target, and Shoya and his friends goad each other into devising new tortures for her. But the children's cruelty goes too far. Shoko is forced to leave the school, and Shoya ends up shouldering all the blame. Six years later, the two meet again. Can Shoya make up for his past mistakes, or is it too late?

**Available now in print and digitally!**

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# Yamada-kun AND THE Seven Witches

KODANSHA  
COMICS

"A very funny manga with a  
lot of heart and character."  
—Adventures in Poor Taste

**SWAPPED WITH A KISS?!**

現代  
高橋

Class troublemaker Ryu Yamada is already having a bad day when he stumbles down a staircase along with star student Urara Shiraishi. When he wakes up, he realizes they have switched bodies—and that Ryu has the power to trade places with anyone just by kissing them! Ryu and Urara take full advantage of the situation to improve their lives, but with such an oddly amazing power, just how long will they be able to keep their secret under wraps?

Available now in print and digitally!

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# DON'T MISS THE MOST ACCLAIMED ACTION MANGA OF 2013!

"Gripping doesn't begin to describe *Vinland Saga*. 5 stars."  
—ICv2

"Deeply engrossing... If you have any interest at all in Vikings, the Medieval period, or pirates, this is not a series you want to miss."  
—Anime News Network

"The art is gorgeous, a combination of beautiful cartooning and realistic backgrounds. Yukimura is also a master of pacing, both in frenetic battle scenes and charged emotional moments."  
—Faith Erin Hicks, *Friends With Boys*

"For those who love *Berserk*, you'll love this too... Worth the long wait."  
—A Case Suitable for Treatment

"It will be impossible to stop watching this story unfold."  
—Japan Media Arts Awards jury



A VIKING EPIC FROM THE  
AUTHOR OF "PLANETES"

# VINLAND SAGA

AVAILABLE NOW IN HARDCOVER

# SHERLOCK BONES

KC  
KODANSHA  
COMICS

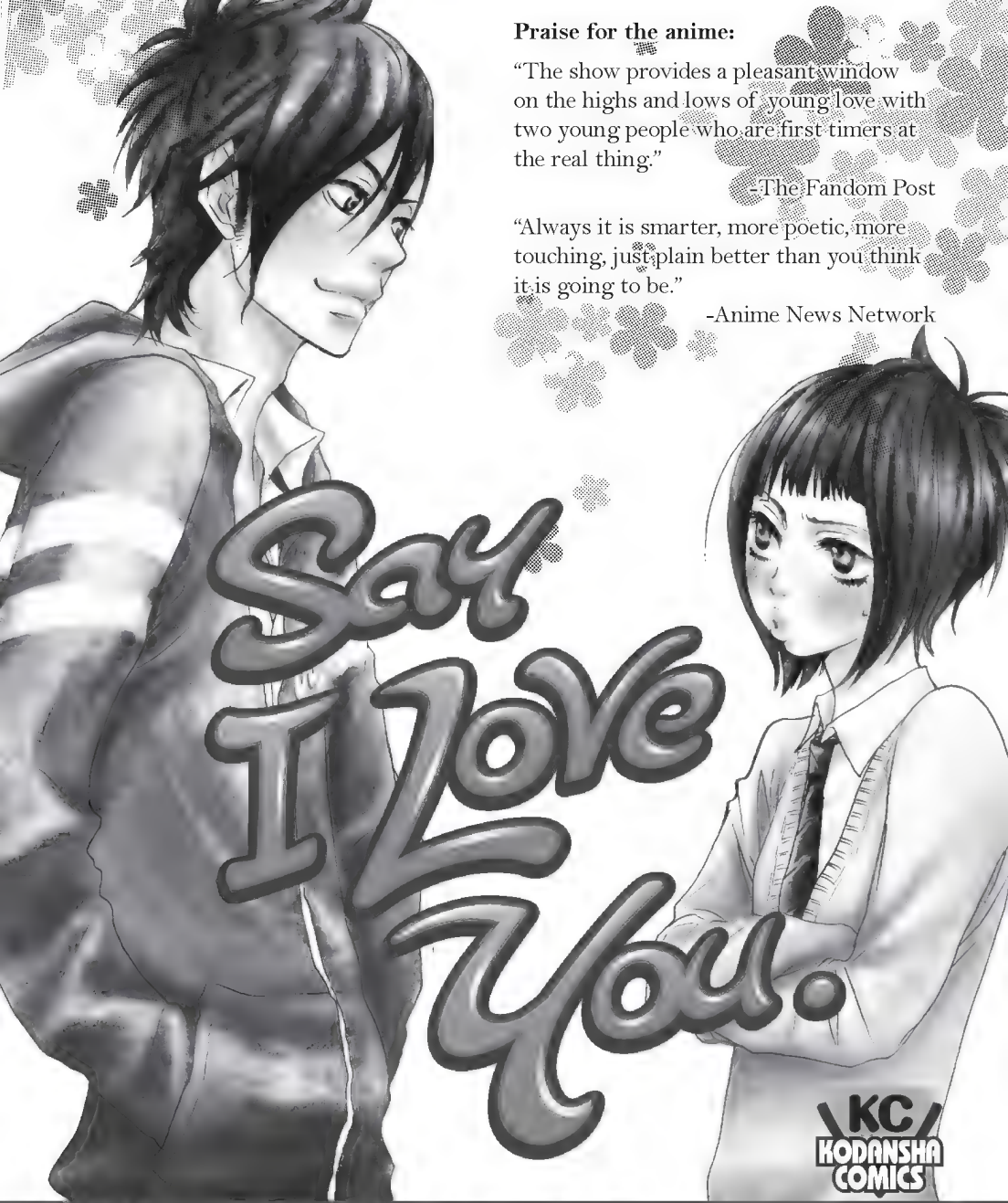


## DEDUCTIVE DOG DETECTIVE

When Takeru adopts a new pet, he's in for a surprise—the dog is none other than the reincarnation of Sherlock Holmes. With no one else able to communicate with Holmes, Takeru is roped into becoming Sherdog's assistant, John Watson. Using his sleuthing skills, Holmes uncovers clues to solve the trickiest crimes. 🐾







### Praise for the anime:

"The show provides a pleasant window on the highs and lows of young love with two young people who are first timers at the real thing."

-The Fandom Post

"Always it is smarter, more poetic, more touching, just plain better than you think it is going to be."

-Anime News Network

**KC**  
**KODANSHA**  
**COMICS**

**Mei Tachibana has no friends — and says she doesn't need them!**

But everything changes when she accidentally roundhouse kicks the most popular boy in school! However, Yamato Kurosawa isn't angry in the slightest — in fact, he thinks his ordinary life could use an unusual girl like Mei. But winning Mei's trust will be a tough task. How long will she refuse to say, "I love you"?

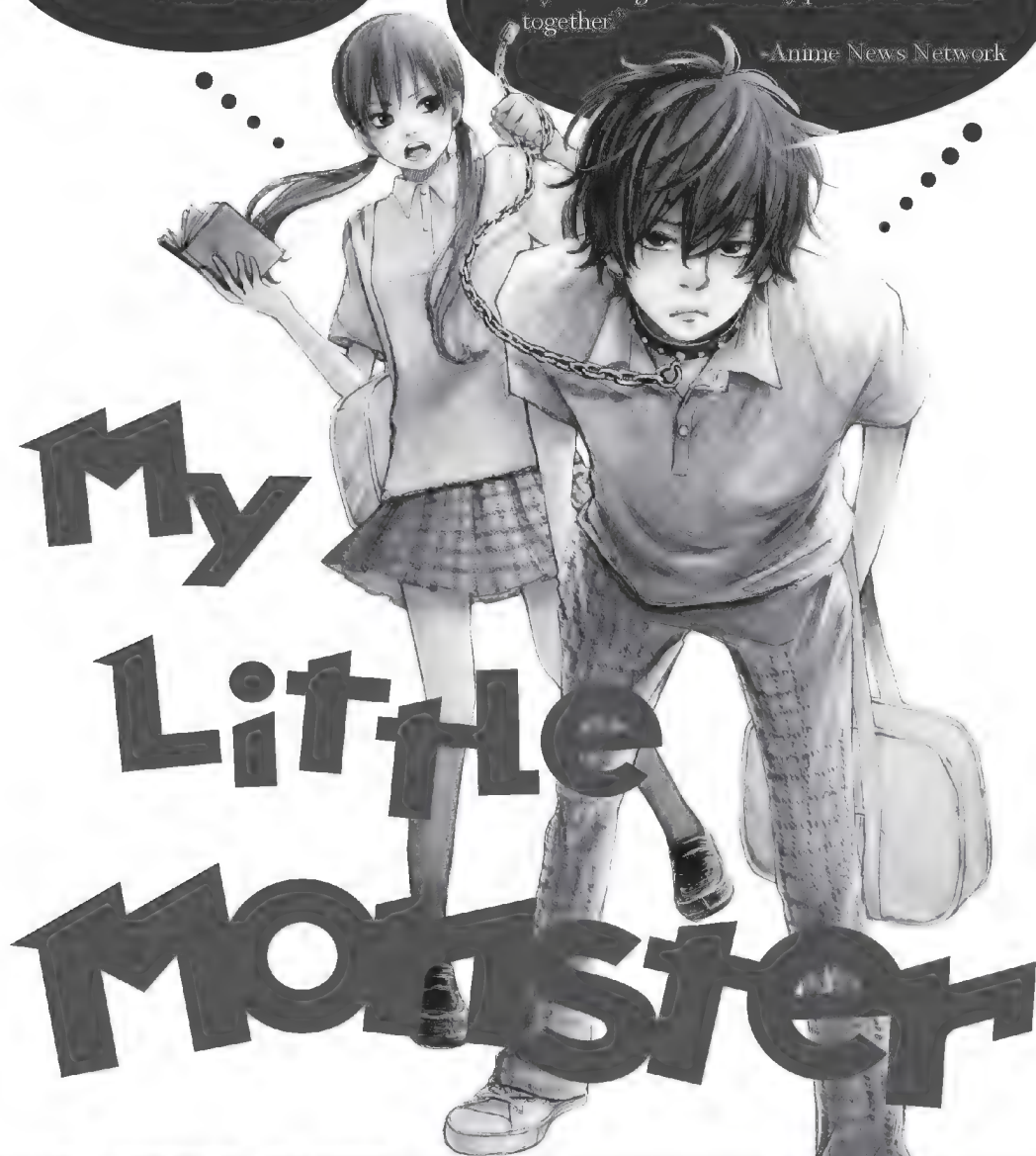
PRAISE FOR THE ANIME!

"This series never fails to put a smile on my face."

-Dramatic Reviews

"A very funny look at what happens when two strange and strangely well-suited people try to navigate the thorny path to true love together."

-Anime News Network



## OPPOSITES ATTRACT...MAYBE?

Haru Yoshida is feared as an unstable and violent "monster." Mizutani Shizuku is a grade-obsessed student with no friends. Fate brings these two together to form the most unlikely pair. Haru firmly believes he's in love with Mizutani and she firmly believes he's insane.



# SANKAREA

## undying love

**"I ONLY  
LIKE  
ZOMBIE  
GIRLS."**

Chihiro has an unusual connection to zombie movies. He doesn't feel bad for the survivors - he wants to comfort the undead girls they slaughter! When his pet passes away, he brews a resurrection potion. He's discovered by local heiress Sanka Rea, and she serves as his first test subject!



# Maria

## THE VIRGIN WITCH

"Maria's brand of righteous justice, passion and plain talking make for one of the freshest manga series of 2015. I dare any other book to top it."

—UK Anime Network

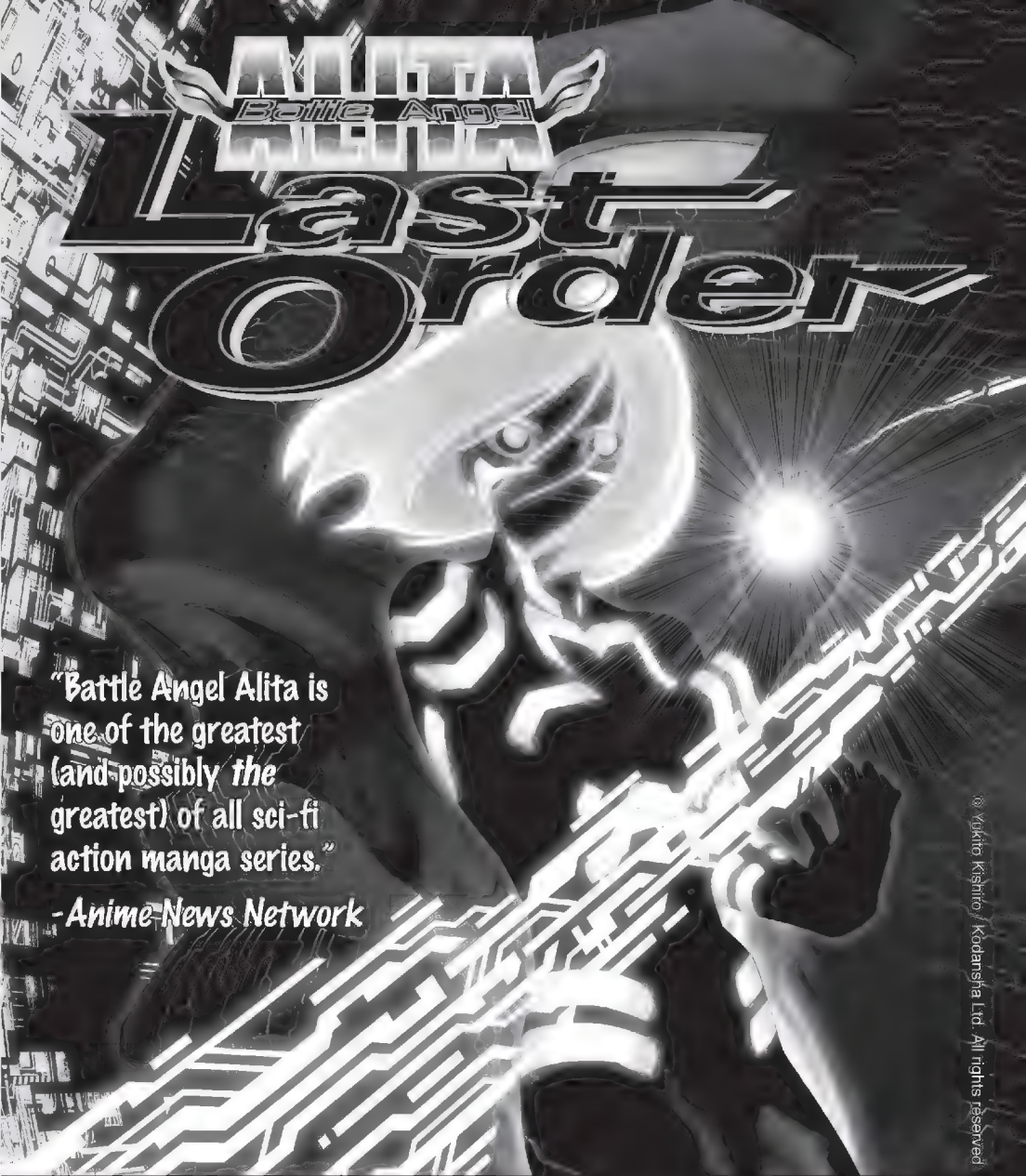
### PURITY AND POWER

As a war to determine the rightful ruler of medieval France ravages the land, the witch Maria decides she will not stand idly by as men kill each other in the name of God and glory. Using her powerful magic, she summons various beasts and demons—even going as far as using a succubus to seduce soldiers into submission under the veil of night—all to stop the needless slaughter. However, after the Archangel Michael puts an end to her meddling, he curses her to lose her powers if she ever gives up her virginity. Will she forgo the forbidden fruit of adulthood in order to bring an end to the merciless machine of war?

Available now in print and digitally!

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"Battle Angel Alita is  
one of the greatest  
(and possibly *the*  
greatest) of all sci-fi  
action manga series."

-Anime-News Network

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## The Cyberpunk Legend is Back!

In deluxe omnibus editions of 600+ pages,  
including ALL-NEW original stories by  
Alita creator Yukito Kishiro!





# INUYASHIKI

**A superhero like none  
you've ever seen, from the  
creator of "Gantz"!**

**ICHIRO INUYASHIKI IS DOWN ON HIS LUCK. HE LOOKS MUCH OLDER THAN HIS 58 YEARS, HIS CHILDREN DESPISE HIM, AND HIS WIFE THINKS HE'S A USELESS COWARD. SO WHEN HE'S DIAGNOSED WITH STOMACH CANCER AND GIVEN THREE MONTHS TO LIVE, IT SEEMS THE ONLY ONE WHO'LL MISS HIM IS HIS DOG.**

**THEN A BLINDING LIGHT FILLS THE SKY, AND THE OLD MAN IS KILLED... ONLY TO WAKE UP LATER IN A BODY HE ALMOST RECOGNIZES AS HIS OWN. CAN IT BE THAT ICHIRO INUYASHIKI IS NO LONGER HUMAN?**

**COMES IN EXTRA-LARGE EDITIONS WITH COLOR PAGES!**

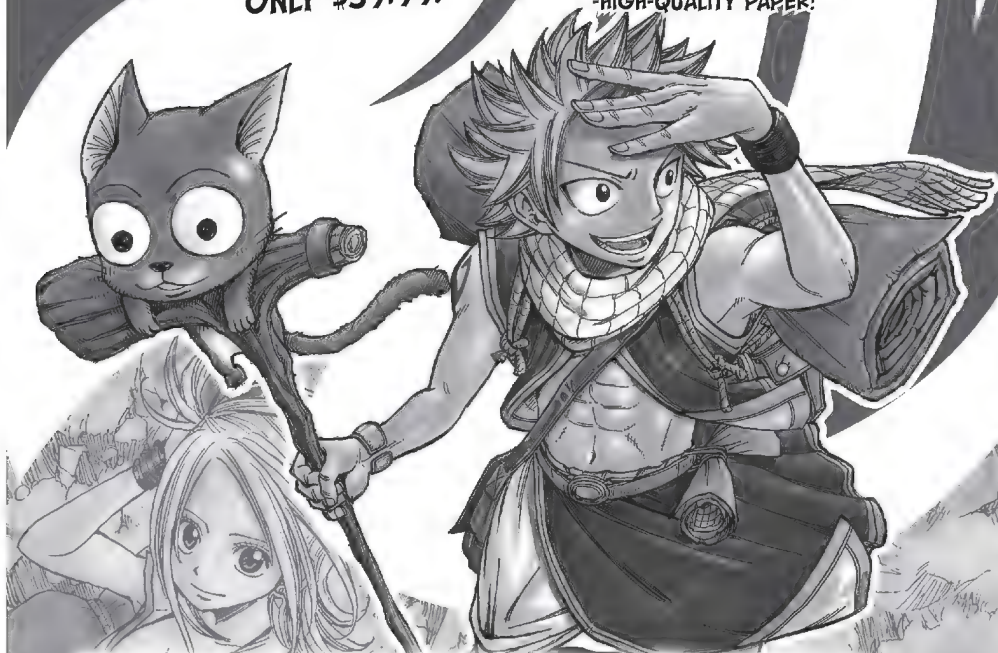




**FINALLY, A LOWER-COST  
OMNIBUS EDITION OF FAIRY TAIL!  
CONTAINS VOLUMES 1-5.  
ONLY \$39.99!**

**KODANSHA  
COMICS**

**-NEARLY 1,000 PAGES!  
-EXTRA LARGE 7"X10.5" TRIM SIZE!  
-HIGH-QUALITY PAPER!**



Fairy Tail takes place in a world filled with magic. 17-year-old Lucy is a wizard-in-training who wants to join a magic guild so that she can become a full-fledged wizard. She dreams of joining the most famous guild, known as Fairy Tail. One day she meets Natsu, a boy raised by a dragon which vanished when he was young. Natsu has devoted his life to finding his dragon father. When Natsu helps Lucy out of a tricky situation, she discovers that he is a member of Fairy Tail, and our heroes' adventure together begins.

# FAIRY TAIL

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**MASTER'S EDITION**



KODANSHA  
COMICS

# DEVIL SURVIVOR

AFTER DEMONS BREAK THROUGH INTO THE HUMAN WORLD, TOKYO MUST BE QUARANTINED. WITHOUT POWER AND STUCK IN A SUPERNATURAL WARZONE, 17-YEAR-OLD KAZUYA HAS ONLY ONE HOPE: HE MUST USE THE "COMP," A DEVICE CREATED BY HIS COUSIN NAOYA CAPABLE OF SUMMONING AND SUBDUING DEMONS, TO DEFEAT THE INVADERS AND TAKE BACK THE CITY.

BASED ON THE POPULAR  
VIDEO GAME FRANCHISE BY  
**ATLUS!**

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# FAIRY TAIL

## BLUE MISTRAL

### Wendy's Very Own Fairy Tail!

The new adventures of everyone's favorite Sky Dragon Slayer, Wendy Marvell, and her faithful friend Carla!



KODANSHA  
COMICS

## Available Now!

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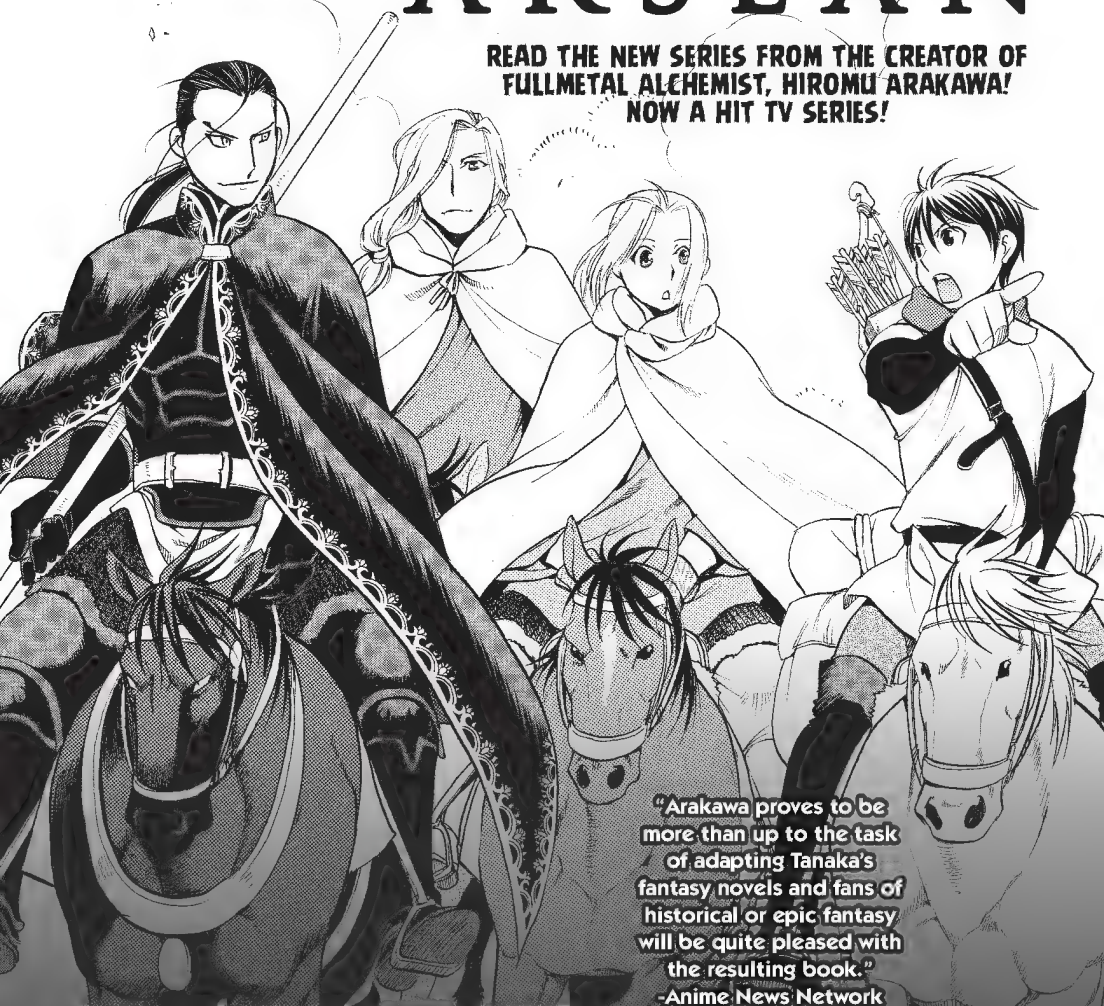




KODANSHA  
COMICS

# THE HEROIC LEGEND OF ARSLAN

READ THE NEW SERIES FROM THE CREATOR OF  
FULLMETAL ALCHEMIST, HIROMU ARAKAWA!  
NOW A HIT TV SERIES!



"Arakawa proves to be more than up to the task of adapting Tanaka's fantasy novels and fans of historical or epic fantasy will be quite pleased with the resulting book."  
-Anime News Network

## ECBATANA IS BURNING!

Arslan is the young and curious prince of Pars who, despite his best efforts doesn't seem to have what it takes to be a proper king like his father. At the age of 14, Arslan goes to his first battle and loses everything as the blood-soaked mist of war gives way to scorching flames, bringing him to face the demise of his once glorious kingdom. However, it is Arslan's destiny to be a ruler, and despite the trials that face him, he must now embark on a journey to reclaim his fallen kingdom.

Available now in print and digitally!

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## **Cells at Work! 1**

KODANSHA COMICS Digital Edition

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Translation: Yamato Tanaka

Lettering: Abigail Blackman

Editing: Paul Starr

Kodansha Comics edition cover design: Phil Balsman



# HOW TO READ MANGA

Japanese is written right to left and top to bottom. This means that for a reader accustomed to Western languages, Japanese books read “backwards.” Since most manga published in English now keeps the Japanese page order, it can take a little getting used to—but once you learn how, it’s a snap. Here’s a handy guide!

Here you can see pages 10-11 from this book. The speech balloons have been numbered in the order you should read them in.

**Page 10**—read this one first!

Start here, at the top right corner of the right hand page.



Read right to left, then top to bottom. In this panel, the leftmost speech balloon comes before the one in the top left corner.

Now continue on to the top right corner of Page 11.

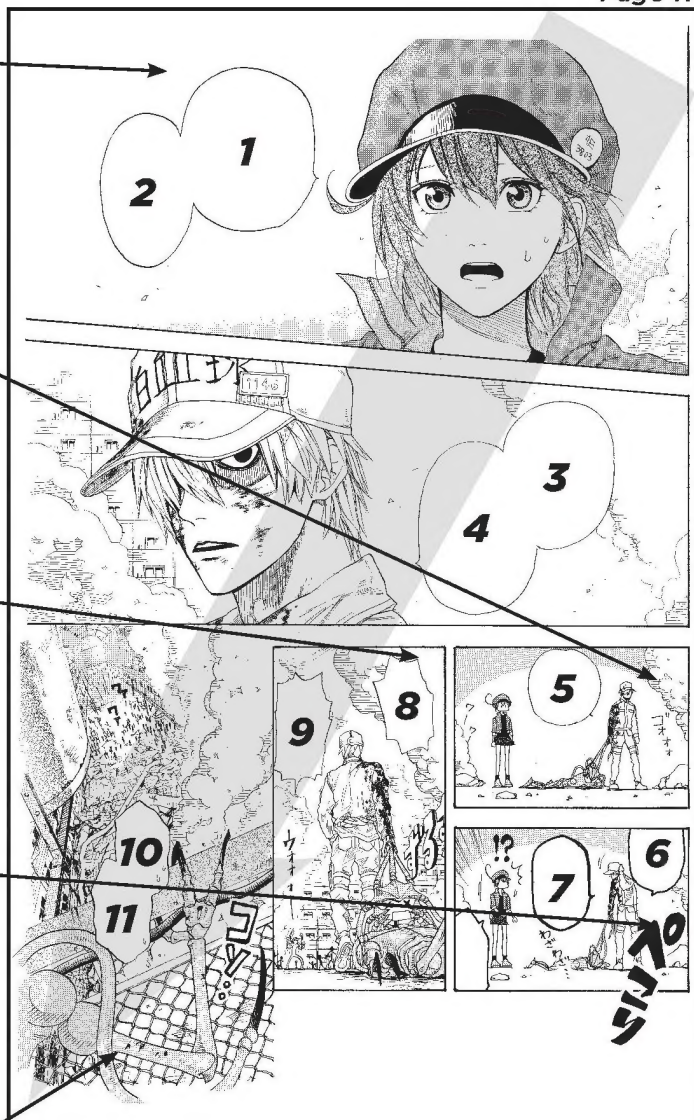
On this page,  
the top two  
panels are  
read first.

This panel is the top  
right-most after the  
first two, so it's next.

If you go to this  
panel next, you  
would have to  
move backwards  
(right) to read  
balloons 6 and 7.

Instead, after  
reading balloon  
5, you move  
down to 6 and  
7, then left...

...and then you  
arrive at the end  
of the page!



**After a few pages, you'll be reading manga  
like a pro—*Japanese-style*!**

止  
ま  
れ

(That  
means  
**STOP**)

You're about to read a *manga*—a Japanese comic—presented in its original page order, which means you start at the other end of the book. If you need a quick guide on how to read manga the way it was meant to be read, flip to the next page—otherwise, turn the book over and enjoy!